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# Waste incentive pilot schemes: draft guidance on technical issues

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Department for Environment, Food and Rural Affairs  
Nobel House  
17 Smith Square  
London SW1P 3JR  
Telephone 020 7238 6000  
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Information about this publication and further copies are available from:

Waste Incentive Pilot Schemes Team  
Defra  
Area 6C Ergon House  
Horseferry Road  
London, SW1P 2AL

Tel: 020 7238 4371

Email: [waste.incentives@defra.gsi.gov.uk](mailto:waste.incentives@defra.gsi.gov.uk)

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## Waste incentive pilot schemes: draft guidance on technical issues

### Foreword

New legislation in the Climate Change Bill will allow for the first time 5 pilot authorities in England to trial specific charge-and-rebate schemes for household waste. Local authorities have pressed Government to introduce such powers. Over 80% of respondents to the Government's consultation in May 2007 supported this move.

Schemes could work by charging residents for the amount of residual waste they put out. Any money collected would then be used to rebate those who recycle the most and throw away the least residual waste. If wanted, local authorities can link any charges and rewards to the council tax billing system. All money collected under such schemes would have to be returned to residents; authorities would not be able to keep any of the money, or use it to cover their costs.

Waste incentive schemes have proved very successful in a number of other European countries – including in the USA, Ireland, the Netherlands and Italy. In Bjuv, Sweden, householders are billed according to the weight of their non-recycled waste. Waste levels there fell by 19% and recycling rose by 49% in the first year of the scheme. The UK is the only EU 15 Member State which does not allow such schemes.

Research carried out for Defra suggests that in the best performing schemes recycling and composting could be increased to around 55%, and the amount of residual waste being put out by residents could reduce by 39%. This has major environmental benefits – every 1% increase in recycling = a saving of 143,000 tonnes of CO<sub>2</sub>.

The document which follows is part of draft guidance that the Government has drawn up, using experience from abroad, to try to present local authorities with a clearer picture of what will be possible under the legislation. This is intended to stimulate debate; we very much welcome comments and informal feedback, and would encourage you to share your views with us at: [waste.incentives@defra.gsi.gov.uk](mailto:waste.incentives@defra.gsi.gov.uk)

The deadline for comments is 25 July, except for the guidance on a good recycling service, where we are asking for comments by 11 July.

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## Introduction

1. This guidance aims to help local authorities address the technical issues which arise when they are considering implementing an incentive scheme. It first describes the four main models and the issues that may affect which one(s) an authority might choose, and then addresses some of the cross-cutting issues. It is for authorities to determine what kind of scheme they wish to propose, and authorities can – if they want - adapt and combine these models to meet their particular circumstances.
2. How charges and rebates might be set is addressed briefly under the description of each available system, but other financial issues are covered in separate guidance. This guidance is therefore structured as follows:
  - A: The four models
  - B: What factors might councils consider?
  - C: Model 1 – Sacks or Tags
  - D: Model 2 – Bin volume
  - E: Model 3 – Frequency of Collection
  - F: Model 4 – Weight
  - G: Enforcement issues
  - H: Implications for other waste arrangements
  - I: Other cross-cutting issues
3. The guidance is designed specifically to address issues in relation to a waste incentive scheme. It does not cover general issues in relation to different receptacles (e.g. sacks versus bins) or collection methods (e.g. weekly or fortnightly collection) which are matters for local authorities to decide. Sources of information on these and other general issues can be found in Annex A.

## **A: The four models**

### **A.1 A brief explanation**

4. The Government has identified four main ways of implementing incentive schemes within the powers it is giving to local authorities. Authorities have total flexibility to implement their own or combined schemes, in accordance with the overarching legislative framework, but this guidance considers the four identified models separately to aid decision-making by authorities. The models all relate to charging and rebating householders according to the amount of waste they throw away without recycling it. Rebate only versions of each of the models are also possible and are flagged up throughout this guidance.

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5. The first main option is to require that special **sacks or tags** are used for residual waste, to give everyone in the scheme a flat-rate rebate, and to charge for the provision of those sacks or tags (section C below). This is fundamentally a model based on charging by volume. It therefore implies that the sacks used need to be of one or more standard sizes.
6. The second option is also a volume based scheme but is based on different **charges or rebates for different sizes of bin** (or different numbers of a standard size bin) (section D below).
7. The third main option is to charge and rebate people on the basis of the **frequency of collection** of their residual waste (section E below). This might be achieved in several ways, but the two main ones are for the household to subscribe in advance for a particular frequency of service or for the service provider to record the frequency with which they take waste from each household as they go along.
8. Finally, the other main option is to issue charges and rebates based on the **weight of the residual waste** collected from a household (section F below).

## A.2 Civic Amenity (Household Waste Recycling) sites

9. The incentive schemes legislation does not permit charging for residual waste taken to Civic Amenity (CA) sites. However, implementing an incentive scheme could have implications for CA sites (see paragraphs 94 and 95 below).

## A.3 Combinations

10. It might be that the appropriate system in a particular authority or area is a combination of two or more of these broad approaches. For example, where an authority has already implemented a system based on wheeled bins, it is quite possible that sacks have been retained in some areas or for some sorts of housing. In these circumstances, different arrangements might need to exist in these areas within any incentive scheme covering the whole authority. Similarly, side waste issues might be tackled by requiring the use of special tags or sacks, even if that is not the main system for residual waste collection.

## B: What factors might councils consider?

11. There are several important issues which councils need to consider in choosing whether to adopt some form of incentive scheme and which system to adopt. They include the following:
  - **Environmental goal**  
Does the council have a view on the level of residual waste reduction and increase in recycling it expects to achieve? Is it trying to achieve specific quality criteria due to the markets it has or

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envisages for the recycled materials collected? Which systems are most likely to deliver these results on recycling and residual waste? Are they – and sufficient capacity – in place or will further investment be needed before the incentive scheme can be introduced? Does the authority have a carbon goal for its waste activities?

- **Economic goal**

What income streams is the council envisaging from the recycled materials? What are the envisaged savings from reduced waste for collection and disposal (today and in future years as these costs increase)? What are the capital costs and ongoing running costs implied by the systems put in place to deliver these results? How much is the council willing to invest in the set up and operation of the new system? See the separate guidance on financial issues.

- **Set up costs**

What are the one-off set-up costs? Is data analysis needed? Do local contracts need to be renegotiated? Do new administrative systems need to be set up? What communication costs need to be factored in for building consensus on the principle and identifying the best scheme for the community?

- **Enforcement implications**

What strategies for enforcement will need to be in place? Guidance on the waste aspects of this issue is at paragraphs 88-90 below and the enforcement of charges (i.e. collecting charges owed) is covered in separate guidance on financial issues.

## C: **Model 1 - Sacks or tags**

12. **Summary:** in this system householders could be required to buy special sacks for non-recycled waste. They could buy these throughout the year for example from local shops. The authority returns the money raised by sending each household a flat-rate rebate. Households who produce less residual waste and therefore purchase fewer sacks would therefore gain more of the rebate than those who produce more waste, and purchase more sacks.
13. When used alone, this system is one which relates payments to the volume of the receptacles used. However, it can also be used in conjunction with other models, as discussed throughout this guidance document.
14. The first main variant of this system is based on the purchase of standard identifiable sacks. The other variant is for people to buy tags which they attach to sacks they provide themselves (but which are required to be a standard size). It is possible to use local retailers as agents for the sale and distribution of the necessary tags or sacks; the more the better to ensure that residents can access them easily.

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15. It is possible within this system to issue a number of free sacks or tags to all residents, if desired, or to people in particular circumstances, should the authority wish to (see separate guidance on unduly disadvantaged groups).

## C.1 Issues to consider

16. The main advantages of a pre-paid bags/tags system are that:

- It is relatively quick and cheap to implement;
- It is easy for households to understand;
- There is no issuing of bills to householders as they purchase sacks or tags on an ongoing basis according to need, rebates are issued on a flat-rate basis, and other administrative costs are low;
- Enforcement of non-payment (i.e. collection of outstanding charges owed) would not be necessary – it would only be necessary to make sure residents used the specified bags, which is possible under the powers attached to s.46 of the Environmental Protection Act 1990;
- Sacks are quicker and cheaper to collect than bins;
- There is a greater incentive to reduce the amount of residual waste from week to week;
- It is compatible with most other existing collection systems;
- Authorities would need to ensure that sacks were sufficiently robust so as to ensure there is no spread of the waste from the sacks,. This would give a “street tidy” appearance with no empty bins lingering at kerbside.

17. The main disadvantages of such a system are that:

- It is unlikely that such a system could be introduced as the main residual waste collection system where there are already wheeled bins in place as both residents and crews (on health and safety grounds) would see this as a reduction in the quality of the service;
- There is some inconvenience for households who need to purchase bags/tags from local retail outlets;
- There is a need to ensure that those groups who might otherwise be unduly disadvantaged (e.g. disabled) can readily obtain the necessary tags or sacks;
- There is little ability to track waste to households (to help with educational work, for example) unless the authority were to introduce measures such as address-specific barcodes on tags, for example;
- Monies coming from the purchase of sacks or tags may not be constant throughout the year. It may be less predictable than in some other systems;
- If tags are used, and they are not uniquely identifiable to an address, it may not be possible to enforce the need for sacks to be of a standard size.

## C.2 How charges/rebates might be set

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18. A rebates-only version of this system is possible. In implementing it, the authority would still need to be able to identify which household each sack came from.
19. Under this model, a likely scenario is that a council would make a flat rate rebate and then charge for the sacks/tags. In this way, residents producing least waste and using least sacks will gain financially. Those using the most sacks will end up paying more. The authority might:
- Estimate the number of sacks that will be collected over the year (perhaps having done a survey first);
  - Determine charges and their estimated revenue implications;
  - Finalise budgets;
  - Either issue alongside the council tax demand notice (“bill”) any rebates or charges;
  - Or, reflect as a negative balance in the incentive scheme account any rebates paid alongside the council tax bill at the start of the year; payments received would then rectify the negative balance in the incentive scheme account;
  - Set up arrangements for the issue/sale of sacks/tags and booking the income to the incentive scheme account;
  - Towards the end of the period or year, estimate the likely overall outcome, determine the adjustment to be made (if any) in the following period or year and take account of that in the budgeting round.

## C.3 Technology and equipment

20. If the system were based on the sale of specified sacks which must be used for the collection of residual waste, and the authority has decided that it does not need to be able to identify which property the sack has come from, there are no new technological issues or demands for new equipment beyond the purchase of the specified sacks.
21. If the system were based on tags (which would constitute proof of payment of a waste charge), they would be standard items whose sale and distribution would be relatively simple. There might still need to be rules on the size and strength of sack used, to which they would be attached, but again the system would be relatively simple.
22. However, if it was desired to be able to trace the sack back to a property (e.g. to enable enforcement, waste analysis or later payment of rebates) a tag with a barcode or other identifying information could be used. This would imply slightly more complex procedures producing, issuing and selling the tags. It is also likely that there would need to be some further equipment for reading the tags if the information on them was held/printed digitally. This might slow down collections.

## C.4 Logistics

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23. In this sort of system, it is likely that waste collections would take place on a fixed timetable and cover all households on the round. Therefore the issue of planning those rounds is much easier, and the cost per collection for the local authority is likely to be lower, and so on. However, this sort of system can also be used as an adjunct to other charging and collection systems too.
24. The only new logistic issue would be the need to record information if a tag system were used which allocated tags to addresses.

## C.5 Resources

25. There is generally little capital spend or need for extra maintenance implied by such systems. There is also very little disturbance to current rounds, unless the recording of tags, or of the number of sacks left out on the round, became onerous.
26. During the set-up phase of a scheme the authority would need to procure the necessary sacks or tags and arrange for their distribution locally through shops and/or other convenient outlets. There might also need to be special arrangements for groups which might otherwise be unduly disadvantaged, such as disabled people. If there is any collection of digital information envisaged, systems will also need to be set up for the collection of that data.
27. However, the set up and subsequent running administrative costs for this type of system are likely to be low. Ongoing costs are primarily repeat procurement of tags or sacks and maintenance of any arrangements for their distribution.
28. Authorities must factor in sufficient public engagement communication, enforcement and monitoring costs.

## D: Model 2 - Bin volume

29. **Summary:** in this system households could choose what size of bins they will have for their residual waste. Those households using a large sized bin could pay a charge. Those who choose a smaller sized bin, would receive a rebate.
30. The second main system is based on householders ordering and paying for different sizes of bin. Where charges are paid, the bins do not become the property of the householders; it is more like a hire charge as the charge or rebate will be repeated (though the amount may vary) each financial year.

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31. One approach is to have a range of bin sizes available to householders. This would generally imply lower collection costs as there would still usually only be one bin lift per household.
32. In mapping the incentive effect, authorities would want to consider the prices of the different sized bins in relation to each other.

## D.1 Issues to consider

33. The main advantages of these types of systems include:

- The billing system is likely to be less costly than for weight-based systems because fixed charges and rebates are issued either at the start of the year or in instalments, but are fixed;
- The revenue is predictable (and consistent if by instalments);
- The system is easy to understand;
- Waste might be more easily traced than in sack based systems.

34. The main disadvantages of bin volume systems include:

- Bin volume based systems do not relate charges as closely to amounts of waste produced as sack based systems (because the bins are bigger) or weight based systems;
- There is no incentive to reduce waste below the minimum or pre-paid bin size (though it might be possible to build this into a combined volume/frequency scheme);
- Such systems may require significant investment in varying sizes of bins;
- The greater the variety of bin sizes, the larger the inventory and distribution costs and possibility of errors;
- When first setting up the system, residents could need significant help (e.g. an advice phone line) to determine what capacity they need.

## D.2 How charges/rebates might be set

35. In this system, people asking for a smaller bin would receive a rebate or pay less than others. Some groups that might otherwise be unduly disadvantaged (see separate guidance on coverage and disadvantaged groups) could have larger bins on the terms applying to others choosing the small bin, for example, or some other form of discount.

36. To implement such a scheme, the authority might:

- Write to residents before budgets are set asking what bin capacity they want;
- Determine charges and rebates and their revenue implications;
- Finalise budgets;
- Either issue any rebates and any charges, alongside the council tax bill;
- Or reflect as a negative balance in the incentive scheme account any rebates paid alongside the council tax bill at the start of the

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year; payments received would then rectify the negative balance in the incentive scheme account.

## D.3 Technology and equipment

37. The system can be a relatively capital intensive one. It could require significant stocks of bins. If different sizes of bins are used, then the collection vehicles need to be able to cope with a variety of receptacles.
38. Capital costs would be much lower if the system could be implemented with an existing stock of bins. However, in many cases, doing so would not provide a sufficient incentive for waste minimization, or a sensible basis for different charges based on the number of bins used, as the bins are likely to be too large. Smaller bins, for which charges would be significantly cheaper or rebates would be given, would need to be introduced as part of the scheme.
39. It may be necessary to be able to identify which bins were associated with which property, so that the authority could be sure that the household had paid for those receptacles they were using. However, if information on frequency and amounts of waste deposited was desired, then bins might be barcoded and there would need to be equipment able to read those barcodes.

## D.4 Logistics

40. Round planning is simple in this option, if used on its own, as all households are visited on whatever frequency applies across the area. This also keeps costs per collection event to a minimum. However, there may be the need for a significant resource for storing, collecting and delivering bins, particularly around the year end as householders make their choices of receptacle for the coming year.

## D.5 Resources

41. Clearly, if there is not already a sufficient supply of the necessary bins, there could be a significant capital spend in moving to this system, both for the bins and, potentially, for vehicles or lifting gear. However, it is possible that this system could be put in place much more cheaply if much of this equipment is already in place. In those circumstances, there might only be the need to ensure that there is a sufficient stock of a variety of bins, for example.
42. There is little or no effect on the number of rounds or crews for the basic collection unless, over time, the reduction in waste enables some savings arising from optimizing on longer rounds. However, there might be some extra staff resource required around the year end when householders are reviewing their requirements for bins.
43. The system could require two rounds of correspondence with householders – the first to ascertain what bin capacity is desired and the next to bill the household accordingly.

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44. In addition, authorities should factor in sufficient communication / public engagement, enforcement and monitoring costs.

## E: **Model 3 - Frequency of collection**

45. **Summary:** in this system households make choices about how often their residual waste is collected. Those who choose a low frequency compared to others would receive a rebate. Those who choose a higher number of collections within a defined period could pay a charge.

46. While there may be other variations, there are two main options within this general type of scheme:

- Option 1: “pre-pay/ earn” system  
Householders subscribe in advance to collections on a defined frequency, from a range of options offered by the authority. Those choosing to have their waste collected less frequently would earn a rebate, while those opting for more frequent collections could pay more. The collection frequency would remain the same unless and until the householder requested a change or the local authority asked them for confirmation of their desired collection frequency.
- Option 2: “pay/ earn as you go” system.  
Rounds occur on a given frequency but there is no pre-defined frequency for collections from each household. Collections would need to be recorded each time they occurred and the household would be billed/rebated later according to how often they had used the service.

### E.1 **Issues to consider**

47. Overall, in a frequency based model, those people who throw away the least amount of residual waste and recycle the most might need a less frequent residual waste service. To understand the implications of this, authorities are advised to consult the WRAP’s guidance to local authorities on Alternate Bin Collection (ABC)<sup>1</sup>. The WRAP guidance covers issues such as food waste services.

48. In general, the pay/ earn as you go model is likely to imply more complex monitoring and financial arrangements, and potentially greater use of technology. On the other hand, it may present a greater incentive to change behaviour as residents face choices each week as to whether to put out rubbish for collection. Conversely, once a resident has paid in advance for a weekly service, there is no further incentive not to put waste out each week.

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<sup>1</sup> ISBN 1-84405-337-7

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49. Potential advantages of such systems might include:

- If there are already bins of a consistent size(s), they could be used for such a scheme, which would reduce capital spend (on new waste receptacles) in introducing the incentive scheme;
- Where there are already standard bins which can be used, this system might imply less capital spending than a bin volume scheme (see above) as the latter would require a variety of bin sizes or a large number of relatively small bins;
- In the pre-pay/ earn system, householders could take an informed decision in advance on the service they wanted knowing how much they would need to pay, or would be rebated, for it;
- The administration costs for the pre-pay/ earn system would be relatively small;
- There could be significant collection service savings if many people opted for less frequent collections;
- The system would normally use bins, but it could be implemented with a specified design or capacity of sack too.

50. Potential disadvantages might include:

- The average cost of each collection might rise if the average time between collections on a round rose; this might be significant where only a few people in an area opted for a higher frequency of collection;
- A system based on charging or rebating each time a collection is made would require the local authority and any collection contractor to record which households left waste out at each collection, and robust connections between their information systems (paper, electronic, or a combination);
- In the pay/ earn as you go system there would be a need to monitor for households using the system infrequently or not at all as an indicator of illegal dumping or public health concerns;
- In the pay/ earn as you go system more advanced billing systems would be needed.

## E.2 How charges/rebates might be set

### E.2.1 *Pre-pay/ earn*

51. In the pre-pay/ earn version of this system, people booking a less frequent collection would pay less than others, or receive a (higher) rebate. Some groups that might otherwise be unduly disadvantaged (see separate guidance on coverage and disadvantaged groups) could also be offered the more frequent service on the terms applying to the less frequent collections, or some other discounted terms.

52. In any particular authority, there might be more or fewer steps than are set out below, and the order may be different, but to implement such a scheme, an authority might:

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- Write to residents before budgets are set asking which collection frequency they wanted (making clear the default option in the event they do not reply);
- Determine any charges and their revenue implications before the start of the year;
- Finalise budgets;
- Issue rebates, and any charges, alongside the council tax bill;
- Either reflect as a negative balance in the incentive scheme account any rebates paid alongside the council tax bill at the start of the year;
- Alternatively, determine and pay any rebates at the end of the year, possibly with the council tax bill for the following year.

## E.2.2 *Pay/ earn as you go*

53. If charges or rebates are related to the number of times a resident leaves waste out for collection, without booking any pattern of collection in advance, then the financial steps are a little different. The council may need to:

- Estimate the frequency of collection (perhaps having done a survey first);
- Determine rebates and any charges and their estimated revenue implications;
- Finalise budgets;
- Either:
  - i. Set up arrangements for recording how often each household leaves out waste for collection;
  - ii. Set up periodic (monthly, quarterly, annual) arrangements for billing residents for charges due<sup>2</sup>;
  - iii. Set up periodic (monthly, quarterly, annual) arrangements for paying any rebates due; (as above, any annual rebates could be made at the start or at the end of the year)<sup>3</sup>;
- Or, if the system is for tags to be bought and attached to bins when residents want them emptied:
  - i. Set up arrangements for the issue/sale of tags and the booking of the income to the incentive scheme account;
  - ii. Towards the end of the period or year, estimate the likely overall outcome, determine the adjustment to be made (if any) in the following period or year and take account of that in the budgeting round.

## E.3 **Technology and equipment**

54. As this system can either charge or rebate people on the basis of the number of times their waste is collected, unless there are specific reasons within the scheme to do otherwise, the other elements of the system should remain the same across all users. Whether sacks or bins are used,

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<sup>2</sup> The legislation allows the charge to be linked to Council tax.

<sup>3</sup> The legislation allows the rebate to be linked to Council tax.

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and regardless of who provides them, it is likely there will be a common size in use, unless a hybrid volume-and-frequency system is chosen (although there might be specific concessions for large families, for example – see separate guidance on coverage and disadvantaged groups).

## E.3.1 *Pre-pay/ earn*

55. If waste is to be collected in line with a pre-pay/ earn frequency, then there is the need to plan, manage and monitor waste rounds closely to ensure that crews only collect waste on the frequency which has been asked for. Bins could be marked with a sticker, for example, to denote the collection frequency asked for. But monitoring to deter abuses might also be needed.
56. The basic pre-pay/ earn system is unlikely to require much technological investment. However, the authority may need ways of identifying the household from which the waste has come so that they know if it is due to be collected on any particular round. That might mean identifying which property a bin is from with a barcode or just a written address.
57. If the system uses sacks, not bins, in principle a tag identifying the property would be needed.
58. Any tags identifying sacks, or any identifiers on bins, would need to relate the sack or bin back to a property, rather than a person. The authority would need to decide and communicate clear rules on what should happen when people move house. However, the systems and billing implications of such changes might be simpler to deal with in a pre-booked frequency-based system than in a weight based system, for example.
59. Authorities might also consider what arrangements might be desirable to enable householders to put out more waste than they have already asked to have collected. There are several options for doing this:
- **Sell special sacks** for such a top-up service, either directly or through newsagents and other retailers etc. This option means having to set up a second arrangement for charging which might increase the administrative costs for the authority.
  - The “**clipboard**” **approach** – making a paper record of any additional side waste collected and then arranging data entry to enable later billing activity, say at the end of the financial year; this is feasible and simple but runs the risk of lost records, disputes and slower (and therefore more expensive) collections.
  - **Using technology** – e.g. using a barcode on the bin (and an automatic or hand-held reader which can deliver information directly to the billing system) to identify that either an extra collection has been made at that address or that extra waste has been picked up from that address. This might be relatively expensive to introduce purely for this purpose; it might be more sensible to use this solution for the overall system, i.e. move to pay/ earn as you go, rather than just the management of charges for side waste.

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- Use the arrangements for **special and/or bulky collections** for any waste that cannot be disposed of through the normal collection.

## E.3.2 *Pay/ earn as you go*

60. If the incentive scheme is not based on pre-arranged frequency of service, the authority would need to register the number of times each household uses the service. This would be a greater incentive to minimise waste. Against this, authorities would need to factor in the possibility of people seeking alternative outlets for their waste, including household waste and recycling centres (“CA sites”).
61. If billing and rebating were post-hoc, the ability to identify the source of waste becomes more important, in which case the solutions and issues are very much those discussed above. Alternatively, for example, tags could be purchased from the authority, which residents would fix to bins when they wanted them emptied.

## E.4 **Logistics**

62. If used on its own, a frequency-based model requires a standard receptacle size. However, either to accommodate groups which might otherwise be unduly disadvantaged (see separate guidance on coverage and disadvantaged groups), or as part of a hybrid scheme, there might be more than one size of receptacle. Either sacks or bins could be used.
63. Those using the system will need to be very clear that depositing side waste, except through a method prescribed in the scheme is not acceptable. This should be done as far as possible through friendly advice, seeking to maintain support for the system and its aims,.
64. Whichever system is in place the capacity of other elements of the local arrangements such as special collections and arrangements for side waste, will need to be planned carefully. It may be cheaper to put in place well planned arrangements of this type than to plan for excess capacity in the basic residual waste collection system. Councils will also wish to consider how effective those arrangements would be and what implications there might be for arrangements at CA sites in that context.
65. If sacks or tags are to be used for any element of the system, then their production and sale or distribution also needs to be planned to ensure that all who may need them (including disabled people, for example) can get them easily.

### E.4.1 *Pre-pay/ earn*

66. The pre-pay/ earn system means that rounds can be planned in advance. However, it also means that the crews need very clear information about which properties are due a collection on any particular street each week. The authority might consider planning rounds to have the capacity to do extra collections on demand. In the short term, that could add costs if

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demand for extra collections did not match the planned spare capacity, but this issue should largely go away once a consistent pattern emerges.

## E.4.2 *Pay/ earn as you go*

67. Authorities will need to make rational assumptions about the numbers of people likely to put out residual waste on a weekly or a fortnightly basis. It may be that a survey ahead of implementation would be very helpful in guiding planning for the new arrangements.

## E.5 Resources

68. It should be possible to introduce a pre-pay/ earn frequency system with little extra capital spending, if there are already standard receptacles in use, or if a sack-based system is possible.

69. Where standard receptacles are not in place and a sack-based system is not adopted, then there will be capital spending required to provide possibly both the receptacles and any lifting gear for them on collection vehicles (though, as a sack-based incentive scheme is possible, it may be wrong to attribute those costs to the incentive scheme). Alternatively, there would be costs involved in providing standard sacks or tags for sacks provided by householders. There would be costs both for the items themselves and for any distribution mechanisms, though they need not be large.

70. Where there is a need to identify waste against addresses – to ensure people only receive the service for which they have paid, or to manage illegal deposit, for example - there may be costs involved in labelling bins or using tags and, in barcode readers or in other administrative arrangements for collecting the necessary information.

71. A reduced number of collections overall (due to some people choosing to have their waste collected less frequently) ought to enable savings to be made on the numbers of rounds, vehicles and crews. However, additional capacity for special collections might be needed. Authorities will need to plan this out (see above).

72. In the pre-pay/ earn system, the ongoing administration costs are likely to be low, mainly amounting to repeated procurement of tags or sacks and the potential need to reconfigure rounds and inform the crews of changes more frequently than might be the case if there were no incentive scheme. They might be slightly higher where charges are determined on the “as you go” basis.

73. In addition, authorities should factor in sufficient communication, public engagement, enforcement and monitoring costs.

## F: Model 4 - Weight

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74. **Summary:** in this system the weight of residual waste put out by a household determine their entitlement to a rebate or liability for a charge. Households putting out a small weight of waste would receive a rebate; those putting out a larger amount could be charged.
75. The fourth main option available under the legislation is based on weighing the residual waste collected from each household. There are two main ways of implementing this option – by using sacks or bins. It is theoretically possible, but may be impractical, to weigh sacks left out by householders. It is more likely that the total weight of a bin with the waste inside would be weighed (the weighing equipment can allow for the weight of the bin).
76. Again, it is important under this system that waste can be accurately attributed to the households from which it came. That means that sacks would need to be tagged with a barcode specific to a particular address or that any standard bin used would need to be identified either using traditional methods such as paint or new digital methods.
77. If local authorities were particularly concerned about residents disposing of waste in neighbours bins, they could consider making bins lockable or ensuring that sacks are traceable back to households, through coded tags for example.

## F.1 Issues to consider

78. The main advantages of weight based systems include:
- Wider potential applicability as the model can be adapted to existing bin-based or bag-based schemes.
  - Send a clear and more accurate price incentive signal to residents
  - Support a variety of billing systems;
  - They enable a range of possible charging patterns (for example, thresholds after which proportionately more is charged);
  - They require no judgement by the crew on the collection vehicle;
  - They could, as a by-product, generate data for measuring waste diversion and informing future policy and system developments;
  - Updates could be provided to residents over the course of the year, acting as a further incentive for residents to change their behaviour.
79. Some of the disadvantages of such schemes are that:
- More advanced billing systems may be required;
  - They require weight scales on vehicles;
  - If sacks were used, collections would be slowed down;
  - The revenue stream is less stable than in systems where people choose a bin size or collection frequency in advance;
  - There may be significant upfront investment in bins, weighing equipment and, possibly, data chips. Ongoing investment to support and maintain the technology would also be required.
  - Costs may be greater where bin sizes vary;

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- The system may not always be compatible with existing collection systems;

## F.2 How charges/rebates might be set

80. In this system payments and/or rebates could be paid after the event, based on the actual amount of waste collected, or in advance on the basis of estimates of how much waste will be produced. In such a system the authority might:

- Estimate the amount (weight) of waste that will be collected over the year from those in the scheme (perhaps having done a survey first);
- Determine charges and/or rebates and their estimated revenue implications;
- Finalise budgets;
- Set up an initial balance in the incentive scheme account (equivalent to the expected net spending on rebates versus income from charges);
- Set up arrangements for recording weight of residual waste collected from each household;
- Set up periodic (monthly, quarterly, annual) arrangements for paying any rebates due or billing residents for charges due<sup>4</sup>;
- Towards the end of the period or year, estimate the likely overall outcome, determine the adjustment to be made in the following period or year (if any) and take account of that in the budgeting round; and.
- Consider the costs and benefits of issuing householders with regular updates on their rebate/charge.

## F.3 Technology and equipment

81. Whether bins or sacks were used there would need to be on-vehicle weighing equipment. There would also need to be a way of recording which household the waste was from at the time it was being weighed.

## F.4 Logistics

82. If tags were used, there would need to be a reliable way of distributing household-specific tags. They could be issued free of charge, or at a charge which would ensure that each household paid a minimum amount (remembering that under this kind of scheme all householders would also receive a flat-rate rebate so that some would earn a financial reward overall). The issues mentioned in previous sections of this guidance about reaching all parts of the community apply here too.

83. Under either system, wherever the reading/recording of household details and the weighing could not be automated as part of the usual lifting process, there would be extra time spent on each collection. Overall, if the

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<sup>4</sup> Legislation allows the charges and rebates to be linked to Council tax.

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extra time were significant this could lead to the need to reshape rounds. In any event it would be likely to increase costs.

84. Any system for recording the information on weights and households must be extremely reliable.

## F.5 Resources

85. In addition to those areas already highlighted, authorities should be aware of possible increased costs relating to setting up the system:

- There may be a need for new bins where there were not standard bins in place before;
- There may be a need for some system of marking to identify which households bins belong to
- There will be a need for weighing equipment on vehicles;
- It may be necessary to make bins lockable;
- There may be a need to adapt lifting equipment to unlock bins;
- There will probably also be the need for equipment to read digital information on the household which has put out the waste.

86. Where there was a weight-based system based on tags, there would be some relatively small administrative costs in distributing the tags, for example. If the tags held digital information, that would reduce delays and costs at the time of collection, but entail greater capital outlay at the start and, possibly, in the ongoing purchase and distribution of the tags.

87. Furthermore, there would be costs involved in setting up a system for keeping householders informed in-year about how much of a charge or rebate they are already liable for and, possibly, what the projected charge or rebate for the full year would be.

88. In addition, authorities should factor in sufficient communication, public engagement, enforcement and monitoring costs.

## G: Enforcement issues

89. The issues relating to the enforcement of waste charges, i.e. the collection of charges owed under an incentive scheme are covered by separate guidance on the financial issues raised by such schemes. However, there are also implications for enforcement under these schemes.

90. It is important to bear in mind that incentive schemes are intended to encourage and spread good behaviour. In these circumstances, where there is a failure to comply with the rules of a scheme (for instance relating

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to the manner or receptacles in which waste should be presented), the most productive initial approach is likely to be one of positive support and advice. Advice will be available to authorities on local communications via WRAP.

91. However, it is also important that councils are aware of their enforcement powers and can deploy them fairly and successfully in the rare occasions when it is necessary. Councils must take their own legal advice on the facts of each situation and the legislation as it applies to that situation. However, the legislation on incentive schemes rests on existing local authority powers which are widely understood and include:

- Powers in the Environmental Protection Act 1990 on disposal on a householder's property likely to cause pollution or a risk to human health (Part 2) or to control statutory nuisances (Part 3);
- Fly-tipping and littering can be addressed through existing powers in the Environmental Protection Act 1990 and the Clean Neighbourhoods and Environment Act 2005 [add ref to guidance];
- Any charges for the receptacle used under an incentive scheme, rules about the receptacles to be used and requirements on side waste must be set out in a notice under section 46 of the Environmental Protection Act 1990, and will be enforceable using section 46 powers.

## **H: Implications for other waste arrangements**

### **H.1 Special collections**

92. A linkage between incentive charging schemes and the local special collection service could exist in several different ways with possible competing pressures.

93. One pressure is that any strategy for preventing or controlling fly-tipping would need to assess carefully the effect of any charges for special collections. Cheap doorstep collection, through the special collection service, of waste that exceeds what can be put out in the normal collection service could be an effective protection against at least some potential fly-tipping.

94. Good special and bulky waste collection services will be needed where there is an incentive scheme. They would need to be delivered quickly once they are demanded and be easy to use.

### **H.2 Household Waste and Recycling Centres/Civic Amenity (CA) sites**

95. Charges and rebates may not be introduced at Civic Amenity (CA sites). However, there are several issues at CA sites for local authorities to consider which may affect the overall success of an incentive scheme. These include:

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- The location and level of CA site provision within a pilot authority and surrounding authorities;
- Site layout (to ensure ease of use and minimal impact on queuing times);
- The range of materials accepted separately at CA sites for composting and recycling; and
- Training of staff.

96. Authorities will need to think clearly about the totality of the waste service offered to their local residents to ensure that any incentives put in place do have the desired results and any damage to the local environment (e.g. carbon emissions from extra vehicle journeys) is minimised.

## H.3 Two-tier areas

97. In two-tier areas, planning the totality of waste provision (e.g. capacity of the recycling service – both collection and processing, arrangements at CA sites, arrangements for residual waste disposal and so on) will require close working between authorities in different tiers.

98. Joint municipal waste management strategies (JMWMS) may be in place, as required under section 32 of the Waste and Emissions Trading Act 2003. These and other local waste strategies may need to be revised. Government guidance on JMWMS can be found at:

[www.defra.gov.uk/environment/waste/localauth/pdf/guidemunwaste-strategy.pdf](http://www.defra.gov.uk/environment/waste/localauth/pdf/guidemunwaste-strategy.pdf)

99. This is in addition to any parallel discussion on sharing the costs and benefits of any incentive scheme. That issue is covered by separate guidance on the financial issues raised by incentive schemes.

## I: Other cross-cutting issues

### I.1 Waste analysis

100. When considering any change to local systems it is important to understand the nature of the local waste stream and any patterns of differences in waste composition between different areas. This will help planning the capacity of different elements of the waste system in different areas. It can also help the authority analyse how successfully it is capturing different materials for recycling and aid its thinking on how to increase those capture rates.

101. Such information can be powerful when associated with local demographic data. Many authorities use these techniques and may already have the necessary information to hand. In other cases, and where there is not the in-house capacity to do the work, there are several consultancies and other bodies who provide such services.

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## I.2 Waste monitoring and management information systems

102. There is also the need to monitor the effect of new and existing systems to see how they are operating and whether they are meeting their objectives. It is important to understand how effective the systems are in terms of what they are delivering on the waste stream (participation rates, capture rates, contamination etc.), but also to review operational data such as missed collections, time per collection and so on.
103. WRAP has published a good practice guide on monitoring and evaluation designed to improve performance of waste diversion schemes which is available at:  
[www.wrap.org.uk/downloads/Monitoring\\_and\\_evaluation\\_guidance\\_-\\_full\\_document.01fe8d0e.pdf](http://www.wrap.org.uk/downloads/Monitoring_and_evaluation_guidance_-_full_document.01fe8d0e.pdf)

## I.3 Health and safety implications of incentive schemes

104. Health and safety issues might arise as a result of moving to new collection systems when implementing incentive schemes. For example, where sacks are used for some households and bins for others, these should be on separate planned rounds to avoid manual handling issues with rake bars set for wheeled bins. Another example is that where there is a sack-based scheme, it may be preferable for the local authority to provide the sacks rather than leaving it to residents to provide them as that may avoid any problems from poor quality bags bursting.

## Conclusion

105. This guidance is designed to give a clear picture of the sorts of incentive schemes available and the issues they raise for an authority considering introducing such a scheme. It needs to be read with other Government guidance on this issue and others (such as that on joint municipal waste management strategies mentioned above).
106. There is also further support and advice available from WRAP. This is recommended for all authorities looking into the possibility of running an incentive scheme, but it is particularly important for those who decide to press ahead as local circumstances and existing and proposed systems may vary considerably.

### Guidance and support on other waste issues

Listed below are some of the sources of help and advice on residual waste and recycling collection systems and associated issues.

#### The Government

Defra's website contains information for local authorities, including on areas relating to:

- Statutory Duties and Powers
- Performance Management
- The Landfill Allowance Trading Scheme
- Strategic and Spatial Planning
- Partnership Working
- Funding
- Encouraging Householders to Recycle
- Illegal Waste Disposal

This information can be accessed at the following link:

<http://www.defra.gov.uk/environment/waste/localauth/index.htm>

#### WRAP

WRAP delivers a wide range of advice and support to local authorities, including in the following areas:

- Garden waste collection
- Food waste collection
- Improving performance of kerbside recycling
- Sale of recyclate
- Local communications and behaviour change
- Home composting
- Materials Recycling Facilities
- Monitoring and evaluating recycling and other waste systems.

They provide training and guidance on all of these issues. Some of the relevant guidance and toolkits include:

- Alternate Weekly Collections
- Assessing the Impacts of Increasing the Range of Materials Collected at the Kerbside
- Local Awareness Recycling Communications Campaign Case Studies
- Basic Design Principles (Communications)
- Procurement and the Efficient Use of Material Resources
- Monitoring and Evaluation Guidance

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- Sustainable Ways of Dealing with Household Food and Garden Waste in the UK
- Clear Steps to a Cleaner Collection (Glass)
- Kerbside Analysis Tool
- Vehicle Procurement Checklist
- Collection Services Wizard

These services and documents, and others, are available through the WRAP website [www.wrap.org.uk](http://www.wrap.org.uk)

## IDeA and Regional Improvement and Efficiency Partnerships

Beacon Councils information:

[www.beacons.idea.gov.uk/idk/core/page.do?pagelid=1](http://www.beacons.idea.gov.uk/idk/core/page.do?pagelid=1)

Waste Improvement Network run by the South East Regional Centre of Excellence:

[www.win.org.uk](http://www.win.org.uk)