

## CHAPTER 6 – WASTE PREVENTION REVIEW

*This chapter summarises the waste prevention measures implemented by arc21 Councils and also provides an assessment of future waste prevention measures taking account of the Northern Ireland Framework for Waste Prevention*

### Introduction

- 6.1 As discussed in Chapter 5, it is recognised that a reduction in future waste growth rate will prove fundamental to the success of arc21's future waste management strategies. A major contributor to waste growth reduction is the prevention of waste generation. Waste prevention is the preferred method of waste management at the peak of the waste hierarchy and is also considered an important tool in the drive towards establishing a sustainable society. Waste prevention is defined in the Northern Ireland Waste Strategy 2006, *Towards Resource Management*, as follows:

*It includes all activities that reduce the amount of waste entering the collected waste stream - for example: Avoiding waste generation; Reducing quantities and the hazardousness of waste at source; and Reusing products before they enter the waste stream.*

Waste Prevention's primary advantage is to achieve landfill diversion targets and reduce the environmental impact of waste. Additional benefits of waste prevention include:

- Reduces quantities and hazardous properties of waste;
- Reduces products before they enter the waste stream;
- Contributes to meeting the requirements of EU legislation;
- Reduces the demand on finite natural resources; and
- Reduces expenditure on waste disposal activities.

- 6.2 Waste prevention is a challenge across Europe. The recent publication of the EU Thematic Strategy on the Prevention and Recycling of Waste has emphasised the importance of waste prevention. In particular, it is recognised that waste growth has been historically linked to economic growth and this link needs to be broken in order to achieve waste prevention. The ever-increasing demands of convenience lifestyles and consumption trends, the influence of fashion and product packaging have meant that waste arisings have continued to grow. Educational campaigns have been introduced in recent years to increase the levels of waste reduction with little return. This is because behavioural change can be difficult to execute and takes time to implement.

## Waste Prevention Initiatives in the arc21 Region

- 6.3 Arc 21 has set itself a challenging but it believes achievable waste growth reduction rate target within the Waste Management Plan. Arc 21 has signed up to the Northern Ireland Waste Prevention Action Plan (September 2005) NIWPAP and is also a member of the Waste Prevention Forum. The actions outlined in the NIWPAP as it directly relates to arc21, are replicated from table 6.8. The NIWPAP is an evolving document and one to which arc21 will give consideration to as it develops and where appropriate take the required actions to deliver on the relevant actions.
- 6.4 In line with other KPI's the rate of MSW waste growth within the arc 21 region will be monitored on an annual, quarterly and monthly basis where appropriate. The results of this monitoring process will be carefully examined for any variance from the targets and any appropriate remedial action will be taken to correct any deviations from the target.
- 6.5 The original WMP developed by arc21 identified a series of actions to encourage waste reduction, re-use and recycling. This recognised 4 main target groups for involvement in waste prevention programmes and initiatives, which included the general public, schools, community groups and businesses. arc21 has also been working in partnership with the DOE to introduce waste prevention initiatives.
- 6.6 Since the original WMP was finalised, arc21 Councils have developed a number of schemes to fulfil the desired actions of the WMP with regards to waste prevention. arc21 is currently working with the Recycling and Organics Technical Advisory Team (ROTATE). This is a free advisory service set up by WRAP to provide hands on advice to Councils on their kerbside collection programmes and on their local communications and awareness programmes. Through work with ROTATE, advice and support will be provided to individual Councils covering various aspects of communication campaigns that will promote reduction. The project will call upon best practice examples of partnership projects in the UK.

**Table 6.1 – Waste Prevention Initiatives**

Arc21 region proposals implemented	Proposal	Antrim	Ards	Ballymena	Belfast	Carrickfergus	Castlereagh	Down	Larne	Lisburn	Newtownabbey	North Down
<b>Arc21&amp;DoE</b>	Development of specific initiatives for householders to reduce waste such as registration to avoid junk mail and return to the retailer schemes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>General public</b>	Smart Shopper, part of the "Slim your Bin" Campaign. Encourages shoppers to buy recycled products, re use carrier bags, choose products with less packaging, to reduce waste.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	'Real' nappy campaign and service						✓	✓	✓			
	home composting campaign	✓			✓	✓	✓	✓	✓		✓	
<b>Schools</b>	Provision of environmental packs and new sheets for teachers	✓		✓	✓	✓		✓	full time education officer to be employed by Oct 2004	✓	✓	✓

**Table 6.1 – Waste Prevention Initiatives**

Arc21 region proposals implemented	Proposal	Antrim	Ards	Ballymena	Belfast	Carrickfergus	Castlereagh	Down	Larne	Lisburn	Newtownabbey	North Down
<b>Businesses</b>	Promote and encourage waste minimisation at source and participation waste minimisation clubs				✓							
	Encourage businesses to undertake environmental audits and develop environmental management and audit systems (EMAS)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Assist businesses in setting up initiatives to provide practical solutions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

**Table 6.2 – Initiatives Introduced Since Last arc21 DIAP**

Initiatives implemented	Proposal	Antrim	Ards	Ballymena	Belfast	Carrickfergus	Castlereagh	Down	Larne	Lisburn	Newtownabbey	North Down
arc21 and DOE	£3 million for a community waste innovation fund for 2005- 2008, aimed at strengthening the involvement of the community and voluntary sector in reducing Northern Ireland's waste through various schemes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
General Public	Voluntary service for re-use of old furniture										✓	
	Community awareness team				✓							
	Charges on excess garden waste	✓										
	Waste campaign roadshow – visits schools throughout Northern Ireland and teaches them the two basic principles behind waste prevention – reduce, reuse recycle.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Partnership with queens university for studying attitudes and behaviour towards waste					✓						
	Waste call centre to address residential queries on waste collection	✓		✓								
	Registration to avoid junk mail	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Kids against Waste wake up to waste website for kids	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

arc21 wide – General public	Design and procure a suitable vehicle dedicated for use in education and awareness throughout the arc21 area	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Produce an A-Z Guide to waste minimisation and recycling of household materials	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Arc21 wide - Schools	Develop a standardised schools education /awareness pack for use in promotional visits	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Annually offer all schools a visit to promote sustainable waste management aimed at pupil and teachers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Continue Youth Speak Competition for a further 3 years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Develop minimum of 2 articles per year (allowing for the insertion of Council specific information) for use by local newspapers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Arc21 wide - business	Encourage and promote establishment of Waste Minimisation Clubs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Actively encourage and promote involvement in the Envirowise Programme and other similar Northern Ireland Initiatives	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

- 6.7 The original WMP identified the potential development of a programme of initiatives for community groups but did not, for obvious reasons, specify details of schemes for waste prevention, re-use or recycling. To date, a small number of community group initiatives including waste prevention have been developed. However, with the award of the three year Community Waste Innovation Fund, there is some further scope to cooperate and encourage community groups initiatives particularly as a number of groups funded are within the arc21 Region.
- 6.8 The DoE have highlighted the importance of assessing waste prevention opportunities from other waste streams as well as Municipal Solid Waste<sup>1</sup>. arc21 recognise the importance of waste prevention for all controlled waste streams and support the DoE in their views on the importance of waste prevention in other waste streams, particularly as MSW accounts for a small proportion of the overall controlled waste arisings. Although arc21 does not have direct control of non-municipal waste arisings it is committed to supporting and promoting suitable initiatives that aim for waste prevention. To this end, a review of waste prevention initiatives was undertaken to identify schemes that may be appropriate to support the arc21 Region. These are detailed in Table 6.3.

**Table 6.3 – Initiatives for C&I and C, D&E Waste**

Waste Stream	Brief Summary	Participants	Visible Benefits
Commercial and Industrial	Business Support Organisations: WRAP, Envirowise etc.	Available to all business sectors willing to participate.	Envirowise fast track visit to Perident resulted in 66% reduction of waste sent to landfill.
Commercial and Industrial	Waste Works website: set up waste management schemes including waste prevention activities.	Available to public sector and large organisations willing to participate.	Provides waste management best practice options on how organisations can save money by minimising their waste.
Producer Responsibility (WEEE, ELV etc.)	Eco Smart Design – a new support initiative for SME's in Ireland and Northern Ireland. Provides advice on product life cycle analysis and waste prevention.	Available to all SME's in Northern Ireland who are willing to participate.	Aims to enhance the competitiveness of small to medium sized businesses by adopting a new approach in EcoDesign and by improving the environmental performance of manufactured products.

<sup>1</sup> EHS – Framework for Waste Prevention in Northern Ireland (September 2005)

Waste Stream	Brief Summary	Participants	Visible Benefits
Commercial and Industrial	NIWEB provides a service of exchanging waste materials between companies in order to reduce the amount of waste generated by businesses in Northern Ireland. One company's waste may be a valuable material for another company. This will prevent the purchase of additional materials and increase waste prevention.	Available to all Companies in Northern Ireland willing to participate.	Trading of redundant materials including such materials as batteries, fibreglass and rubber tyres.
Commercial and Industrial	Wake up to Waste provides advice for reducing waste for businesses in Northern Ireland. It particularly works closely with retailers on different initiatives for waste prevention. It also raises awareness through media campaigns on television and radio.	Major supermarkets in Northern Ireland – Tesco, Asda etc.	The Tesco on Boucher Crescent in Belfast now washes green trays used for packaging. This saves 6,000 tonnes of cardboard per annum.
Commercial and Industrial	WRAP 'Courtauld Commitment' – includes absolute reductions of packaging waste by 2010 and identify ways of dealing with food waste.	Retail stores/ food retailers.	Asda, Boots, Budgens, the Co-operative Group, Londis, Iceland, Kwik Save, Marks & Spencer, Morrison's, Sainsbury's, Somerfield, Tesco and Waitrose have all joined forces with WRAP (the Waste & Resources Action Programme) by pledging their commitment.
Commercial and Industrial	Green Technology Initiative run by Invest NI – provide loans to companies to put towards the cost of capital equipment for dealing with waste.	The initiative is open to established companies with fewer than 250 employees.	Three-year interest-free loans of up to £50,000 towards the cost of capital equipment.
Commercial and Industrial	WRAP – Retailer Initiative and Innovation Fund Focused on reducing	Leading retail supermarkets.	35-40% of household waste, originated from a purchase from the top 5 retail

Waste Stream	Brief Summary	Participants	Visible Benefits
	the amount of packaging used by retailers for product containment.		supermarket chains Target is to reduce waste going to landfill ( from packaging) by 310,000 tonnes by March 2006 and conduct research into how packaging reduction can be reduced.This is being conducted by research institutes, universities, design agencies, packaging manufacturers, product manufacturers, environmental and design consultants as well as the relevant retailers across the UK.
Construction, Demolition and Excavation	Dti: has developed a code of practice for on-site waste management for contractors and clients. Sustainable Construction Group NI is currently working on a Northern Ireland version.	Participation is voluntary.	A version of the document, specific to Northern Ireland, has been published in February 2006 and is available on the Department of Finance and Personnel Website; this will provide a source of guidance to operators.
Construction, Demolition and Excavation	Government working in partnership with WRAP to identify opportunities for green procurement within the public sector – efficient use of materials generated during construction and demolition activities.	Public Sector	WRAP's Procurement Programme will publish guidance for local authorities on specifying recycled materials for applications such as highways, construction, publications and estates management.
All Waste Types	Investment Belfast established Full Circle, to support growth of industries for recycled goods in Belfast. This is not specifically waste prevention but is envisaged to promote reduction as one of its aims.	All Sectors.	Initiate research and development projects and minimising impact of waste streams. Currently working with the Construction and Demolition industry to explore potential partnerships and joint ventures.

All Waste Types	Arena Network establishes environmental clubs that share information regarding waste prevention and other environmental activities.	Available to all companies willing to participate	Craigavon Waste Minimisation Club cut down on waste production, achieving savings of approximately £1000 per employee.
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### Waste Prevention Model

- 6.9 In order to make waste prevention a reality, there is a need to change the public's attitude away from a 'throw away' society towards a more sustainable approach. This may lead to a change in behaviour, but on its own, it only represents the first step. Changing people's behaviour is a daunting task, but with suitable mechanisms it is possible to generate changes that can have a positive effect on waste prevention. One of the main goals of waste management strategy is to make waste prevention part of the public's everyday routine.
- 6.10 The DoE's Framework for Waste Prevention in Northern Ireland<sup>2</sup> has adopted the behavioural change model proposed by the UK Sustainable Development Strategy as the principal mechanism to deliver waste prevention in Northern Ireland.
- 6.11 The model identifies four key elements which could influence public behaviour and catalyse the move towards waste prevention; these are described below:
- **Enable:** Providing the ability to conduct waste prevention such as removing legislative barriers and provision of appropriate waste management infrastructure and guidance.
  - **Engage:** Putting waste prevention initiatives into action such as the establishment of a waste prevention forum and partnerships across the various waste sectors.
  - **Encourage:** Provide incentives/ disincentives for those involved in waste prevention, such as tax breaks, award schemes or penalties.
  - **Exemplify:** Provide a leading example for those involved in waste prevention. For example implementing Environmental Management Systems across Government bodies, demonstrating environmental considerations in procurement contracts and individual projects.
- 6.12 This model provides a sound basis for enhancing waste prevention and arc21 will apply the principles of the model in order to enhance waste prevention in the region.

<sup>2</sup> EHSNI – Framework for Waste Prevention in Northern Ireland, September 2005

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- 6.13 This model is reproduced in Figures 6.1 - 6.3, each of which illustrates the three major controlled waste streams, i.e. Municipal Solid Waste (MSW), C&I and C, D&E wastes, respectively.
- 6.14 It is not possible for arc21 to implement each of the various mechanisms identified to enhance waste prevention for each waste stream, since many aspects of waste generation are outwith their control. However, Figures 6.1-6.3 illustrate where it is possible for arc21 to influence the mechanisms identified to enhance waste prevention for each waste stream.
- 6.15 In addition, Tables 6.4, 6.5 and 6.6 identify where current waste prevention initiatives in the arc21 Region and Northern Ireland integrate with the mechanisms identified in the model. Any gaps, i.e. where initiatives that correspond with one of the model mechanisms could be enhanced, are identified by shaded boxes. These are areas where arc21 will concentrate efforts to ensure all mechanisms in the model are being driven forward.
- 6.16 Figure 6.1 shows that arc21 could have a wide-ranging sphere of influence over the mechanisms behind prevention of MSW generation. It is not envisaged that arc21 would be able to change the tax system to directly influence waste arisings, however arc21 can exert a high level of influence over changing the public's behaviour towards creating and managing their waste. With this in mind, arc21 wish to run trials to investigate the potential for incentive schemes which would require new legislation in order to implement. As identified in Tables 6.1 and 6.2, a wide range of initiatives have already been implemented within the region to instigate change. The model shown in Table 6.4 shows how these initiatives associate with the various mechanisms.

**Figure 6.1 Behavioural Change Model for Waste Prevention: MSW**

**Blue = Mechanisms within arc21's control**

**Red = Mechanisms outwith arc21's control**

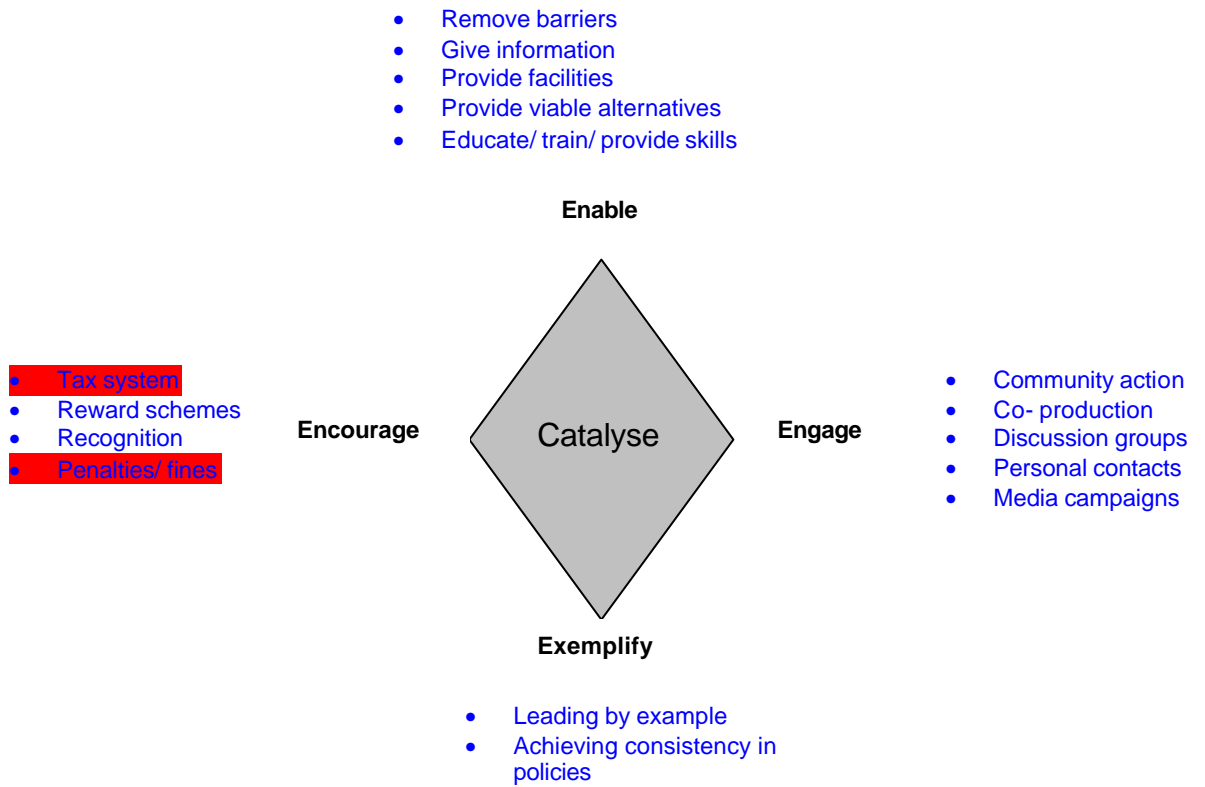


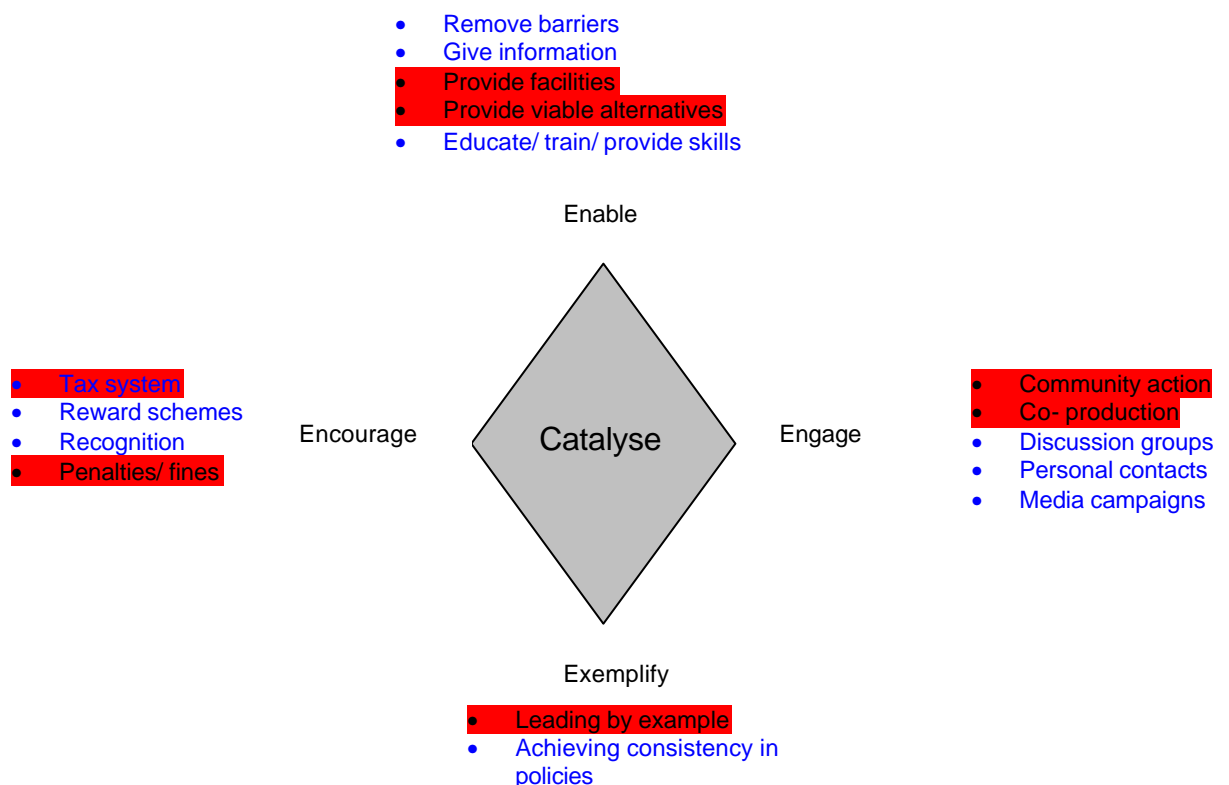
Table 6.4 - MSW Initiatives and the Level of Control by arc21

Key Elements	Mechanism	Initiative	arc21 control
<b>Enable</b>	<b>Remove barriers</b>	£3 million community waste innovation fund has provided funding for "Sort it Out", a waste minimisation educational programme, a collection service for unwanted goods with the view for re-use and an outlet for the resale of second hand furniture.	Y
	<b>Give info</b>	Campaigns, media events, waste call centre, websites	Y
	<b>Provide facilities</b>	Provision of home compost kits	Y
	<b>Educate/ train/ provide skills</b>	School events, environmental packs for teachers, Youth Speak Competition	Y
<b>Engage</b>	<b>Community action</b>	Registration to avoid junk mail	N
	<b>Co- production</b>	Queens University partnership	Y
	<b>Discussion groups</b>	Voluntary furniture re-use service	Y
	<b>Personal contacts</b>	Employment of minimisation and recycling officers	Y
	<b>Media campaigns</b>	Wake up to waste	N
<b>Encourage</b>	<b>Tax system</b>	Potential charged collection on excess garden waste	Y
	<b>Other</b>	Real nappy campaign	Y
		Waste campaign road show	Y
		Waste call centre	Y
<b>Exemplify</b>	<b>Leading by example</b>	Belfast community awareness team	Y
	<b>Achieving consistency in policies</b>	arc21 Waste Management Plan	Y

**Figure 6.2 Behavioural Change Model for Waste Prevention: Commercial & Industrial**

**Blue = Mechanisms within arc21's control**

**Red = Mechanisms outwith arc21's control**



6.17 Figure 6.2 indicates that arc21 would have less control over the mechanisms behind prevention of C&I waste generation. The main producers of this type of waste is private industry, therefore, the main focus of arc21 councils in this area will be in the areas of provision of information, initiating discussion forums, incentive schemes and ensuring that the policy making process assists the waste producers as much as possible. In those areas where arc21 cannot control the outcomes, it is possible that entering partnerships with private operators would provide the missing link (e.g. to lead by example – supporting private operators with setting up demonstrator projects). arc21 could introduce a similar scheme to the one introduced by Defra to

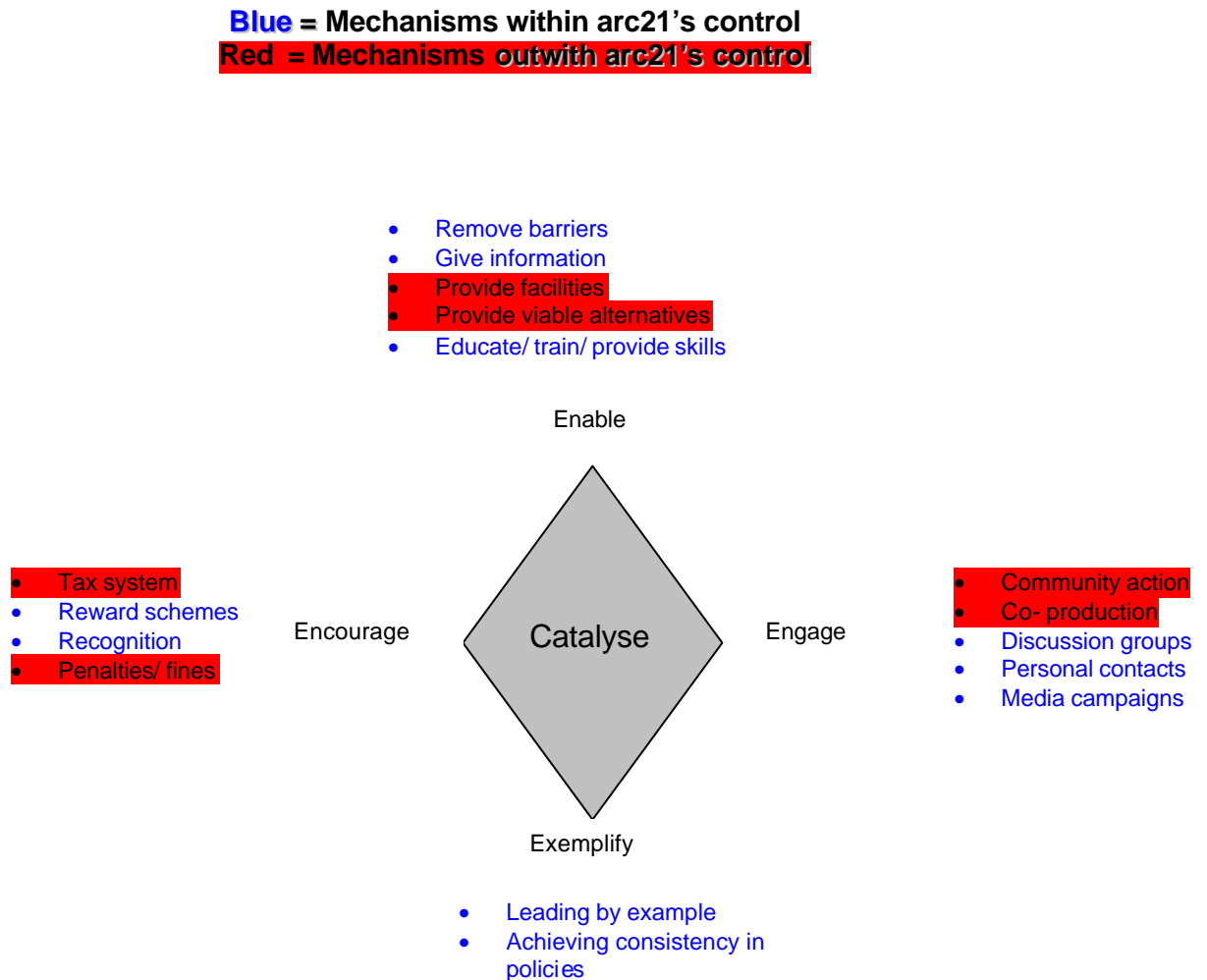
reduce waste from businesses. The Business Resource Efficiency and Waste (BREW) programme recycles revenue generated through increases in Landfill Tax to fund a range of free services and targeted support for businesses. The programme specifically targets waste minimisation, the diversion of waste from landfill and improvements to resource efficiency.

- 6.18 As identified in Table 6.3 a range of initiatives have already been implemented within the region to instigate change in the C&I waste stream. How these initiatives associate with the various mechanisms identified in the model is shown in Table 6.5.

**Table 6.5 - The C&I Initiatives and the Level of Control by arc21**

Key Elements	Mechanism	Initiative	arc21 control
<b>Enable</b>	<b>Remove barriers</b>	NIWEB waste exchange	N
	<b>Give info</b>	Eco-Smart Design Wake up to Waste	N
	<b>Provide facilities</b>	Green technology initiative	N
	<b>Educate/ train/ provide skills</b>	Wrap retailer and innovation fund	N
<b>Engage</b>	<b>Discussion groups</b>	Arena Network Environmental Clubs	N
		Waste Works Website Belfast City Council have recently commenced an Environmental Performance improvement scheme which could have benefits for arc21	N
	<b>Personal contacts</b>	Business support organisations	N
	<b>Other</b>	Courtald commitment packaging waste reductions	N
<b>Encourage</b>	<b>Tax system</b>	Commercial premises charged for collection	N
	<b>Reward schemes</b>	National awards	N
<b>Exemplify</b>	<b>Leading by example</b>	EMS implementation	Y
		WRAP Retailer Initiative and innovation Fund	N
	<b>Achieving consistency in policies</b>		
	<b>Other</b>	Environmental audits for businesses	N

**Figure 6.3 - Behavioural Change Model for Waste Prevention: Construction, Demolition and Excavation Wastes**



6.19 Figure 6.3 indicates that arc21 would have less control over the mechanisms behind prevention of C, D&E waste generation than MSW. Since the Councils may produce some of this type of waste, more influence could be exerted than with the C&I waste stream. It is likely that private industry would produce the greatest volume of this type of waste and as such provide the majority of waste management facilities for waste handling. arc21 councils can influence the industry through partnerships and provision of guidance and discussion forums etc.

6.20 Prevention of this type of waste is perhaps more difficult than the other waste streams, due to the nature of its sources. The construction industry has been leading the way in re-use and recycling of wastes for some time. Initiatives currently ongoing in the arc21 Region have been identified (shown in Table 6.6). arc21 can lead by example on construction projects under Council control and, through

disseminating the results to industry, may be able to improve data collection. This does not necessarily mean there is a lack of ongoing activity but that it is likely that improved data collection on the generation and handling of this waste stream is required.

**Table 6.6 – C, D&E Waste Initiatives and the Level of Control by arc21**

Key Elements	Mechanism	Initiative	arc21 control
<b>Enable</b>	<b>Remove barriers</b>		
	<b>Give info</b>	Wake up to waste Envirowise Dti code of practice	N N N
	<b>Provide facilities</b>		
	<b>Provide viable alternatives</b>		
	<b>Educate/ train/ provide skills</b>		
<b>Engage</b>	<b>Community action</b>		
	<b>Co- production</b>		
	<b>Discussion groups</b>	Arena network clubs	N
	<b>Personal contacts</b>		
	<b>Media campaigns</b>		
	<b>Other</b>	Green aspects for procurement	
<b>Encourage</b>	<b>Tax system</b>	Aggregates Tax	N
	<b>Reward schemes</b>		
<b>Exemplify</b>	<b>Leading by example</b>	Green aspects for procurement	N
	<b>Achieving consistency in policies</b>		

**Local Authority Examples of Waste Prevention Initiatives**

6.19 In order to ensure that challenging National and European recycling and waste prevention targets are met, local authorities, whilst increasing the service provision in their areas, need to develop and implement efficient and cost effective education and awareness strategies to maximise recovery and increase the participation rates of their services. An increasingly important aspect of these schemes heading forward is the ability to monitor the performance of schemes and campaigns.

6.20 In order to establish existing data available in the public domain on waste prevention initiatives, a high level desk top study was undertaken (see Appendix 6.1). This study has identified that a reduction in waste arisings may be gained from introducing and maximising waste awareness initiatives. It also demonstrates that the stronger the promotional campaign the greater waste reduction that could be achieved.

- 6.20. In order to be most effective, awareness strategies should utilise a range of public awareness initiatives adapted to local circumstances. They should also take into account if it is an urban or rural location and if there are any particular socio-demographic characteristics, which may affect the success of their campaign.
- 6.22 The promotional campaigns which have been monitored and findings released in the public domain have indicated that the amount of spend per household on promotional campaigns does have an influence on the effectiveness of the campaigns success. It is however possible to have the right campaign with a smaller degree of spend and also significantly increase awareness and waste reduction can be realised.

### **The Way Forward – arc21 Recommended Programme of Actions for Waste Prevention**
















- 6.21 It can be seen from the three models that the level of control/influence that arc21 can exert over the various waste streams varies. The more obvious roles for arc21 within the mechanisms for instigating behavioural change fall into the categories involving education, provision of information, media and marketing campaigns and waste management policies as well as provision of infrastructure to manage household waste. It is possible that behaviour change undertaken at home will be continued by individuals when at work, and conversely some recent research undertaken in Belfast indicated that improvements in waste management practices implemented in the work environment can also influence similar behaviour changes by the staff at home. However, application of the models identifies that arc21 can play a much wider role in the waste prevention process, including interaction and partnership with industry and business advisory groups to identify good practice projects for the local area.
- 6.22 The Northern Ireland BPEO Guidance identified that on average, municipal waste arisings will grow at 2.4% per annum. arc21 has considered the potential for growth in MSW arisings as detailed in Chapter 5. This assessment has given consideration to the potential impact of waste prevention initiatives that arc21 are proposing to reduce growth in MSW arisings. As a result of this, challenging but achievable estimates for MSW growth have been identified from 1.8% in 2005 decreasing to 1% by 2020.
- 6.23 Tables 6.1 and 6.2 identify a variety of waste prevention initiatives that individual or a small number of councils have implemented. These activities are proposed to continue and consideration will be given to the success of those projects and roll out across the region. A number of the waste prevention initiatives are proposed as detailed in Table 6.7. Additionally, an alternate weekly collection of residual waste will continue to be introduced to all households which have received three bins for the collection of dry recyclables, organic waste and residual waste.

- 6.24 As demonstrated by the local authority examples, there is potential to monitor the impact of waste prevention and education schemes through public attitude surveys and scheme specific tonnage performance before and after prevention campaign activities. Monitoring and reporting systems will help evaluate the efficacy of prevention campaigns the across arc21 Region. It is considered that the primary Key Performance Indicators (KPI) will provide a mechanism to assess waste prevention and in particular tonnages collected from kerbside recyclable schemes will be measured. This can indicate over time whether a reduction in overall arisings is occurring. Where appropriate, arc21 will develop suitable surveys/assessments of particular schemes to evaluate success and supplement data reported from KPIs
- 6.25 The involvement and support of residents in the arc21 Region will be a key driver to achieve waste prevention across the region. Experience from Local Authorities in Europe who have demonstrated reductions in MSW waste arisings has indicated that a comprehensive communication and awareness strategy is fundamental to engage the support of residents. The City of Ghent, for example, implemented an integrated waste management strategy (including awareness campaign) that resulted in an overall waste reduction annually between 1995 and 1999. A significant budget equivalent to approximately £10 per household per annum was included to deliver the communication and awareness element of the strategy. A similar approach in arc21 would require an annual budget of approximately £3.75 million based on a housing stock of approximately 375,000 households in the arc21 region.
- 6.26 With regards to C&I waste, arc21 Councils have very little control over the mechanisms controlling this type of waste but can lead by example. As described arc21 will promote involvement in waste minimisation clubs and is promoting involvement in the Envirowise Programme and other similar NI initiatives. The least number of initiatives were identified for the C, D&E waste stream and it is recognised that options for management of this waste stream are more limited. There are a number of actions that arc21 can undertake to help influence waste prevention with other controlled waste streams.
- 6.28 Based on the process of identifying opportunities and constraints, Tables 6.4 to 6.6 have identified a number of gaps where arc21's role could be increased, to push the waste prevention process forward and these are identified in Table 6.7 below. Table 6.8 illustrates the programme that will be implemented to develop actions for waste prevention.

**Table 6.7: Further arc21 measures to promote Waste Prevention**

Waste Stream	Recommended Action
All waste streams.	Councils to draw up an Action Plan to deal with their own waste. Waste Action Plans will include measures to reduce the levels of waste that are produced by District Council offices, depots and buildings.
MSW	Monitor KPIs for tonnages recycled on each scheme and participation/segregation relates. Develop surveys/assessments to evaluate impact of waste prevention campaigns e.g. assess monthly waste tonnages following media events, roadshows etc.
	Develop reward schemes targeted at general public, community organisations and schools that will provide a reward incentive for waste prevention projects. Projects developed by these groups and rewarded will instil pride in individuals as well as raising awareness of the central message of waste prevention.
	Lead by example – arc21 will coordinate implementation of environmental good practice through Councils operations. Disseminate results to public.
C&I Waste	Disseminate environmental good practice to business clubs. Develop green procurement policy and encourage Council up take of policy. Green procurement rules will encourage Council suppliers to adopt a more sustainable approach including waste.
	Engaging in business partnerships to develop environmental management systems will strengthen arc21s influence over this sector.
C, D&E Waste	Investigate opportunity to input to C,D&E Industry advisory bodies (e.g. WRAP, BRE) Collaborate with organisations producing guidance and standards to ensure that waste generation is minimised on construction and demolition sites
	Ensure environmental good practice implemented on Council managed construction projects (e.g. road improvement schemes) to illustrate to private industry that it is possible to minimise waste production on site.

**Table 6.8: Programme of Actions to Promote Waste Prevention**

WASTE STREAM	ACTION PROPOSALS	Year				
		2005/06	2006/07	2007/08	2008/09	2009/2010
All Waste Streams	Arc21 Councils to draw up an Action Plan to deal with their own waste. Waste Action Plans will include measures to reduce the levels of waste that are produced by District Councils offices, depots and buildings and services. arc21 Councils to aim for a 10% reduction per annum in paper waste based on a Council baseline, up to 2010.		— — — — —	— — — — —	— — — — —	— — — — —
MSW	Home composters to be offered by arc21 Councils to residents. Composters includes food waste digestors and home wormeries.			— — — — —	— — — — —	— — — — —
	Waste Communication and Awareness fund to be established to provide consistent waste awareness strategy to residents across arc21 Councils and to include waste prevention. Communication fund to pay due regard to Best Practice elsewhere.			— — — — —	— — — — —	— — — — —
	Continuation of implementation of alternate weekly collection for residual waste to all households served by three bin system				— — — — —	— — — — —
	Promotion of appropriate National Campaigns (e.g. Real Nappy, Smart Shopper) Real Nappy campaign by arc21 Councils.		— — — — —	— — — — —	— — — — —	— — — — —
	Where appropriate promotion of Community RePaint by arc21 Councils.		— — — — —	— — — — —	— — — — —	— — — — —
	Develop reward schemes targeted at general public, community organisations and schools that will provide a reward incentive for waste prevention projects. Projects developed by these groups and rewarded will instil pride in individuals as well as raising awareness of the central message of waste prevention.			— — — — —	— — — — —	— — — — —
	Pilot incentive schemes to be trialled and undertaken from suitable areas within arc21 Region.			— — — — —	— — — — —	— — — — —
	Investigate and identify with DoE the legal requirements for allowing incentive schemes				— — — — —	— — — — —
	Representation to Government on implementation of incentive schemes based on results				— — — — —	— — — — —
C&I Wastes	arc21 Councils to disseminate environmental good practice to business clubs.		— — — — —	— — — — —	— — — — —	— — — — —
	Arc21 Councils to develop and agree green procurement policy.. Green procurement rules will encourage Council suppliers to adopt a more sustainable approach including waste.		— — — — —	— — — — —	— — — — —	— — — — —
	Arc21 Councils to engage business partnerships in Council area to promote development of environmental management systems. To target take up of EMS by 5 Businesses per year.			— — — — —	— — — — —	— — — — —
C,D&E Wastes	Each arc21 Council to ensure environmental good practice implemented on all Council managed construction projects to illustrate to private industry that it is possible to reduce waste production on site. To publish results of two projects per year to promote further good practice.			— — — — —	— — — — —	— — — — —
	Each arc21 Council to investigate opportunity to input to C,D &E Industry advisory bodies (e.g. WRAP, BRE). arc21 to collaborate with organisations producing guidance and standards to ensure that waste generation is reduced on construction and demolition sites. Councils to encourage take up of guidance on 2 third party projects per annum.			— — — — —	— — — — —	— — — — —

**Key**



Year Action to be Implemented



On-going Activity