

DUBLIN CITY DEVELOPMENT PLAN 2011 - 2017
BACKGROUND PAPER
SUSTAINABLE ENVIRONMENT AND INFRASTRUCTURE

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1. Introduction

Dublin City is committed to taking a sustainable approach to achieving its vision of a vibrant, healthy, clean, safe, green and inclusive City.

The concept of sustainable development dates from 1987, and was defined as ‘development which meets the needs of the present without compromising the ability of future generations to meet their own needs’.¹ Brundtland identifies three aspects of sustainable development. The ecological aspect which recognises the limits of production and consumption. As part of the ecological aspect, it is recognised that natural resources are finite and the capacity of the environment to deal with production and waste is also finite. The social aspect relates to the question of equity. Not just equity between developed world countries and developing world countries but that future generations should have access to the same natural resources as the present. The economic aspect recognises that the economy must be operated within existing ecological limits.

Dublin City, like most cities in the world, is facing a number of challenges to maintain and protect a sustainable environment. The issue of sustainability is both global and local and is more pressing as a larger percentage of the world’s population live in urban environments. The Stern Report (October 2006) concluded: *“the scientific evidence is now overwhelming: climate change presents very serious global risks, and it demands an urgent global response”*. The onus is on cities, therefore, to plan growth in ways that make better use of key resources such as land, buildings and construction materials, water, energy and waste. In essence, Dublin needs to consume less and recycle more.

The overall vision of the City Council is to create a compact City with intensification of mixed-use development located at high quality public transport hubs where, in the future, all residents will be within reasonable walking distance of local services and public transport. The issue for the City is to provide the necessary facilities and corridors for infrastructure to facilitate this spatial pattern of development.

Policy Context

In 1992, the United Nations Conferences on Environment and Development (UNCED), “Earth Summit”, was held in Rio de Janeiro. In 1997, most world leaders signed the Kyoto Protocol, which came into effect in February 2005 when green house gas (GHG) emission reduction targets became legally binding. Under the EU burden-sharing agreement, Ireland has committed to limit growth in green house emissions. In January 2008, EU leaders agreed to new targets to 2020, compared with 2007 levels, in the areas of green house emissions, use of renewable energy and use of biofuels in transport. In the non-trade sector, Ireland is committed to reduce its green house emissions by 20% over 2007 levels.

The Government White Paper on Energy – ‘Delivering a Sustainable Future for Ireland’ – sets out the energy policy framework for the period 2007-2020. The national policy sets the target of 20% energy savings across the economy and a 33% energy savings target for the Public Sector.

Sustainability ‘captures the important ideas that development has economic, social and environmental dimensions which together can contribute to a higher quality of life.’²

These sectors are inseparable and interlinked. The price of energy is directly linked to the economy also, “an environment that supports high levels of wellbeing is also becoming an important driver of competitiveness as Ireland endeavours to attract and develop world-class companies and workers here.”³ However, the environment is paramount as it provides the context for the other sectors and it is now clear that development has to be environment-inclusive.

¹ Brundtland Commission Report (World Commission on Environment and Development) 1987

² Department of the Environment and Local Government: National Spatial Strategy 2002-2020: 13

³ National Competitive Council, Forfas, Discussion Paper on Wellbeing and Competitiveness, July 2008: 19

Section 10(2)d of the 2000 Planning and Development Act requires that the development plan shall include objectives for – “the integration of the planning and sustainable development of the area with the social, community and cultural requirements of the area and its population”.

In 2007, the City Council developed a proposal outlining a process for the City Council to embrace the principles of sustainability and gradually evolve all its activities to comply with them. The Natural Step Framework is a system for understanding sustainability. The proposal provides for a four-step sustainability planning process; creating awareness; conducting analysis; developing a vision of a sustainable Dublin in 2020 and implementing the vision.⁴

The Natural Step (TNS) is an approach to sustainability developed in Sweden in the late 1980s which is useful in policy development. There are four principles, namely:

- Use approaches which reduce dependence on fossil fuels, extraction of metal and mineral (oil, lead, mercury) – for examples, solar and wind power
- Use approaches which reduce dependence upon synthetic chemicals and other unnatural substances for examples, pesticides, building and road materials
- Use approaches which reduce encroachment on nature, for examples, grass and sod roofs, sustainable urban drainage systems (SUDS), Recycle water, river restoration, using waste as a resource, sewage treatment by plants, high recycling rates, grey water policies.
- Use approaches that meet human needs fairly and efficiently, for example, a democratic ‘bottom- up’ planning process – involving implementers and involving citizens.

1.2. Sustainable Environment and Infrastructure Framework:

The sustainable approach involves the following principles –

- To mitigate the impacts and risks of climate change, by reducing carbon emissions, encouraging more efficient use of energy across all sectors, including the use of renewables.
- Adaptation to the potential risks of flooding by using measures to control the rate of flow of water, build in flood protection measures to development, preferably natural use, where necessary, resistant and resilient building techniques.
- Protect the environment, by minimising pollution on land, in water and in the air.
- Minimise waste and dispose of it in accordance with current good practice.
- Make efficient use of natural resources, such as water, by encouraging sustainable production and consumption.
- Protect and improve bio-diversity (e.g. wildlife habitats).

⁴ Dublin City Council, Annual Report and Accounts 2007, Distinctly Dublin, DCC 2008: 24/25

2. Progress to date

Progress on a number of the areas identified as key issues and challenges in the topic of sustainable environment and infrastructure can be reported since the adoption of the City development Plan 2005 – 2011. This progress is set out below and further details are provided in Section 4.0 -- Main Issues and Challenges.

- Climate Change Policy for Dublin city, adopted in May 2008.
- New Development Plan Policies for energy efficiency and renewable energies in new development introduced in January 2008.
- Feasibility study and mapping of District Heating Networks in the city commissioned.
- Draft Action Plan on Energy introduced
- Extension of Ballymore Eustace Water treatment Plant under construction
- Reduction in water leakage levels in the Dublin region from 43% to 30% achieved through the Watermains Rehabilitation Project.
- Establishment of the Eastern River Basin District Project to protect and improve water resources and ecosystems.
- Adoption of the Greater Dublin Strategic Drainage Study identifying infrastructure required to cater for storm water and foul effluent.
- Establishment of a Major Emergency Management Team to respond to flood and other risks.
- Introduction of Sustainable Urban Drainage System technologies and requiring these systems in new developments.
- Adoption of a Litter Management Plan by City Council in 2008.
- Production of a Draft Noise action Plan for Dublin City, currently at public consultation stage.
- The Biodiversity Action Plan, 2008-2012

3. Future Trends and Developments.

The following are proposed developments in relation to infrastructure and environment and are further elaborated upon in Section 4:

- Upgrading of Ringsend Regional Wastewater Treatment Plan to cater for a population equivalent of 2.2 million people.
- Construction of flood defence schemes for Dublin Bay and the River Dodder.
- Regional Materials Recovery facility due to become operational at Ballymount in 2008.
- Biological treatment facilities at Ballyogan and Kilshane Cross due to become operational later in 2009.
- Production of a Dublin Regional Air Duality Management Plan

The overall vision of the City Council is to create a vibrant, healthy, clean, safe, green and inclusive City.

The City Council is committed to taking a sustainable development approach by developing a compact City with intensification of mixed-use development located at high quality public transport hubs where, in the future, all residents will be within reasonable walking distance of local services and public transport.

4. Main Issues and Challenges

4.1 Climate Change

It is crucial that the City Council, through the Development Plan, responds to climate change by ensuring new developments are designed to mitigate climate change (reduce GHG emissions) and adapt to its effects. The first priority, in the long term, is to reduce greenhouse gas emissions, primarily carbon dioxide, which contributes to global warming. It is calculated that approximately 5 million tonnes of carbon dioxide is emitted each year in Dublin. The recently adopted Climate Change Policy for Dublin City (May 2008) focuses primarily on mitigation, that is, the reduction of CO₂ gases by focusing on five areas, namely energy, planning, transport, waste management, and biodiversity.

The City Council has been proactive in this area, particularly in improving energy efficiency and performance in new developments. In 2007, by a variation to the current Development Plan, the City Council promotes higher standards of energy efficiency and increased use of renewable energy in new developments by insisting on a high energy rating which will be increased further to an A3 minimum Building Energy Rating (BER) in January 2009. The existing residential stock, however, accounts for some 80% of all residential units which are not affected by the current policy.

Biodiversity is an element in Climate Change mitigation and adaptation strategies. The introduction of canopy cover, green chains, green roofs and wetlands helps to reduce carbon emissions. An important consideration in the choice of any adaptation measures to climate change is the effects on biodiversity. In addition, the changes in the timing of actions of species (phenology) provide an early indicator of the effects of climate change.

The City Council has commissioned studies to investigate the feasibility of and map District Heating Networks within the City Council area.

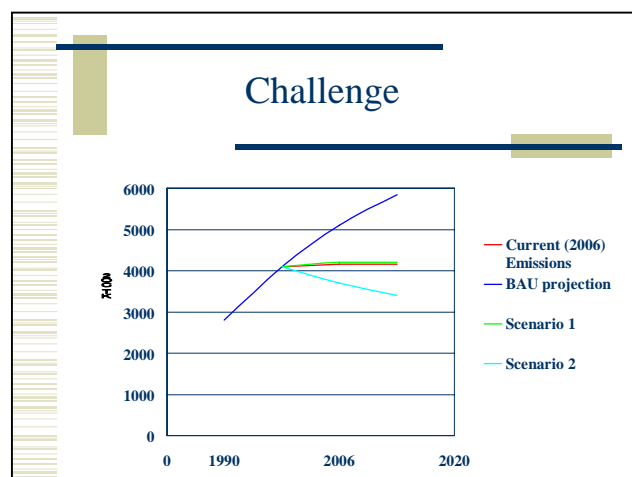
Climate change will bring with it extremes of weather. This could best be summarised as too much water in the wrong place and at the wrong time and too little water in the right place at the right time. This will have impacts resulting in increased flood risk and challenges in supplying drinking water particularly during periods of drought.

4.2 Action Plan on Energy

The 'Action Plan on Energy for Dublin' is an implementation plan that aims ultimately to help maintain Dublin's competitive advantage and quality of life, while at the same time reducing the city's carbon footprint. It examines a number of scenarios to improve energy efficiency across the main energy-consuming sectors: residential, services, manufacturing and transport and seeks to create new opportunities to develop renewable energy sources.

The action plan highlights opportunities for more sustainable energy use particularly in the residential and transport sectors. A major concern is to focus on land use and public transport as a key strategy in sustainable energy use; new residential developments are best located next to public transport.

The diagram⁵ illustrates that by taking significant action now, through major capital investment in both hard and soft measures across the sectors, the CO₂ emissions can be stabilised at the present (2006) level (Scenario 1



⁵ Energy for Dublin, Analysis of Residential, Commercial and Transport Sectors, Codema November 2007: 13 BAU stands for 'Business as Usual'.

stabilisation), while to make significant reductions, deep changes in practice along with technological innovations and renewable energy sources will be required (Scenario 2-Proactive Compliance).

4.3 Renewable Energy

There are new requirements for renewable energy under the recent updates to the Building Regulations.

New houses are required to include a portion of their energy requirements from renewable sources. Developments over 1,000 sq m are required to consider the feasibility of renewable energy. There are also new Planning and Development regulations regarding renewable energy technologies (e.g. solar panels, wind generators, etc) attached to business or industrial buildings (not apartments).

4.4 Water Supply

Drinking water supply for the greater Dublin area is dealt with on a regional basis. A population of approximately 1.4 million spread over 6 local authority areas is currently supplied from water treatment plants operated by Dublin City Council and Fingal County Council.

SUPPLY AND DEMAND

Supply and demand for high quality drinking water is finely balanced and this will remain the case in the short to medium term pending increases in treatment capacity. While the balance will be in favour of the suppliers for a period, after 2011 demand, due to population growth, will continue to rise during the life of the 2011-2017 Development Plan and beyond. At present, 80% of the water is sourced from the River Liffey.

In the absence of a new long-term source of supply such increased demand will not be met.

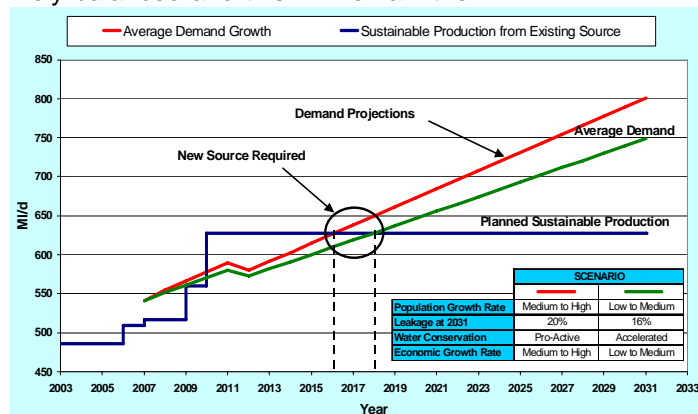
The City Council's commitment to addressing both the water supply and water conservation issues is being demonstrated on a number of fronts.

Construction work on the extension of the Ballymore Eustace Water Treatment Plant is in progress and this project will deliver additional water treatment capacity in 2011. The commissioning of the Sillogue Water Tower has seen the completion of the North Fringe Water Supply Scheme designed to improve the level of service to customers in the north of the city and in Fingal.

Studies to identify a major new water supply source to meet demand in longer term are in progress with the possibility of either using a desalination process to treat water from Dublin Bay or bringing water from the river Shannon being the options being most closely assessed.

Leakage levels for the Dublin Region have been reduced from 43% to 30% and a combination of active leakage detection and repair coupled with the Water mains Rehabilitation Project which will see 280km. of old cast iron pipes across the region upgraded at a cost of €118 million by 2011 (based on current Government investment). A total of 3% of network will be replaced as a result and successive investment will be needed of a similar size until c.30% of network is replaced. This will contribute to a target level of 20% leakage being achieved in the long term.

Production of water in the Region is 145 litres per person per day. Only a small percentage of this is used for drinking with the bulk of the amount supplied to homes being used for toilet flushing, watering gardens etc. The introduction of water metering and payment based on the volume supplied to the non-domestic sector coupled with the requirement to comply with the



city's Water Byelaws regarding water management plans and audits provide incentives for the sector to conserve water. Advice and assistance in this regard will be available from the Council's Water Conservation Officer.

The main issues to be addressed regarding drinking water supply are, therefore, centred on meeting future demand due to population growth, improving the efficiency of the existing network and encouraging water conservation and replacement of ancient assets and are summarised as follows: -

- Ensuring the provision of the necessary infrastructure required to collect, treat and distribute high quality drinking water in sufficient quantity to meet the increased demand for supply generated by existing and future development. The pursuance of policies to consolidate the city will mean that this infrastructure will have to be provided as a matter of priority.
- The putting in place of an Asset Management Strategy and funding that will ensure repair/renewal/rehabilitation/upgrading of the existing infrastructure to reduce leakage and to ensure security of supply for all consumers, both existing and new.
- The promotion of the concept of Water Conservation amongst all stakeholders in the interests of environmental sustainability. This will include awareness raising programmes, introduction of water management plans in Local Area Plans and in large developments, the provision of advice to consumers, the application of the Water Bye-Laws, which require the use of the most water efficient fixtures and fittings in new developments and the carrying out of water audits by non-domestic consumers. It will also involve the increased use of rainwater harvesting in new and existing developments to replace usage of drinking water for a number of household and business activities such as garden watering. Greywater recycling systems are developing technologies which could play a part, but come with a health warning.

As with Drainage and Wastewater Services there is a need for co-ordination between the development plans of the other planning authorities in the Greater Dublin Region regarding the supply of drinking water if best use of the available resource is to be made.

4.5 Water Ecosystems

The European Union Water Framework Directive (WFD) aims to provide a new strengthened system for the protection and improvement of water resources and water dependent ecosystems throughout the member states. It rationalises and updates existing water legislation and establishes an integrated approach to the protection, improvement and sustainable use of surface and groundwater on the basis of river basin districts (RBDs). It applies to all waters (surface, ground, transitional and coastal waters) and requires that the necessary measures be adopted to prevent the deterioration in the existing status of waters and to ensure that all natural waters achieve "good ecological status" by 2015.

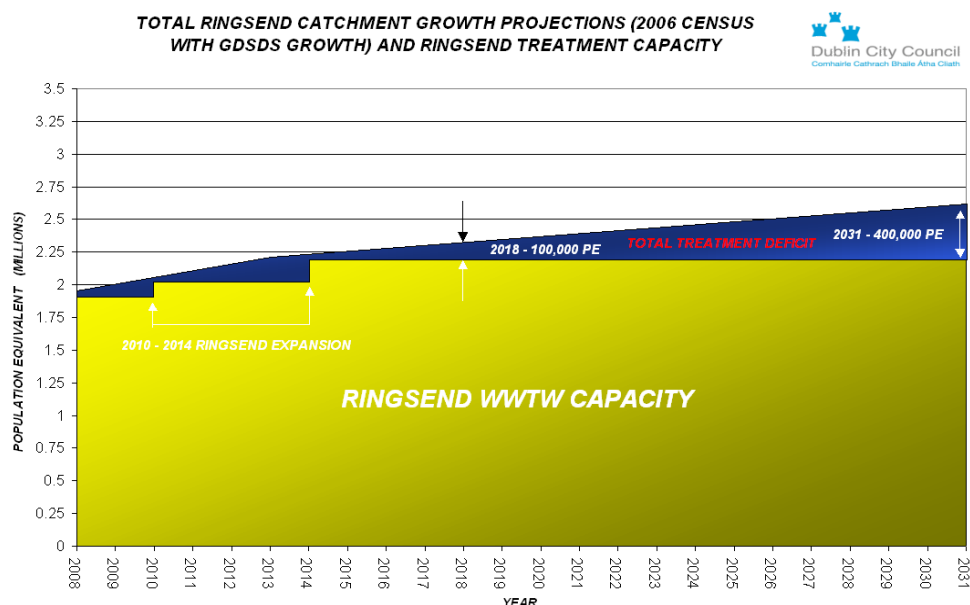
The European Communities (Water Policy) Regulations (S.I. No. 722 of 2003) transposed the WFD into national legislation. For the purposes of implementing the directive Ireland has been divided into eight river basin districts. Dublin City Council is the lead local authority for the Eastern River Basin District (ERBD), which comprises all, or part of 12 local authorities in the east of the country. The specific environmental objectives to be achieved by 2015 and the measures necessary to achieve them will be set out in the ERBD River Basin Management Plan. A draft plan will be published in 2008 and following a period of public consultation the agreed plan will be published in 2009.

Dublin City Council will have responsibility for implementation of the plan within its functional area in the period 2009-2015 and, as lead local authority, will also be responsible for co-ordination of its implementation throughout the ERBD. Dublin has been awarded a prestigious International Award by the International Water Association (IOWA) for its innovative work in the ERBD.

4.6 Drainage and Waste Water

The Regional Wastewater Treatment Works at Ringsend is currently overloaded. The WWTW which was designed for a 1.64 million population equivalent (p.e) load, is having to cope with an average load of 1.9 million p.e. Of this 58% emanates from the City Council area and the rest from Fingal, South Dublin, Dun Laoghaire–Rathdown and Meath. Despite the overload, the works have proved resilient in meeting statutory effluent standards. In addition, all of the sludge products are either recycled as a useful fertiliser, or used as a green energy source. When fully developed, this green source will account for 10% of the entire City Council's energy requirements. Furthermore, the works have contributed to Dublin being the only capital city in the EU with blue flag beaches.

However even with the planned upgrade of these works (increase to 2.2 million p.e.), it is expected that this capacity will have been exceeded by the time of their completion in 2014 (earliest possible date). As identified in the 2005 Greater Dublin Strategic Drainage Study, the Region requires a North Dublin Wastewater Treatment Works and orbital collection sewer in addition to the Ringsend Works. Progress in developing the North Dublin Wastewater Treatment Works and orbital sewer is essential to avoid a significant infrastructure deficit by 2014.



The main issues in drainage and wastewater provision are:

- The Greater Dublin Strategic Drainage Study has identified the need for the North Dublin Wastewater Treatment Plant and Orbital Sewer as well as significant improvement in the Drainage collection network. To date a draft SEA has been carried out, but a site for the works has not yet been selected. It is imperative that a decision is taken on the location of the plant and the route of the Orbital Sewer in order to reserve the land for this critical infrastructure.
- Regionally, while this wastewater treatment is provided to the Dublin region, Dublin City Council is not consulted on developments in the other Local Authorities and there is no coordination of development. A proposal for development quotas will have to be considered to address this problem.
- Greater co-ordination on development proposal is required between the different Local Authorities.

4.7 Flood Management

Climate change brings with it new challenges for Dublin City in the area of flood management. The challenges relate to extreme weather events (including pluvial/monster rain) and the rise in mean sea level with potential storm surges.

The east of Ireland is relatively dry compared to the rest of the country. The total quantity of rainfall falling on the region is of the order of 850mm per year and this has remained largely unchanged in over a century. However over the last three to four decades it is clear that rainfall intensities have increased dramatically punctuated by longer periods of drier weather. The intensity of rainfall brings with it challenges in terms of urban flood management.

In Dublin, the blue print for the development of drainage services and flood protection over the next quarter century is set out in the Greater Dublin Strategic Drainage Study (GSDSDS). That study identified, at a strategic level, the infrastructure required to service existing and new development in the context of dealing with storm water and foul effluent. As part of the production of this study a detailed report was prepared on climate change impacts and this document gives coherent guidance, particularly to new development, on how climate change impacts should be addressed.

The Department of Environment, Heritage and Local Government (DOEHLG) are in the process of preparing national policy guidance on the consideration of flood risk within planning and development management. In late September, Draft Guidelines for Planning Authorities on the Planning System and Flood Risk Management were issued by the DOEHLG for consultation.

Since the 2002 floods, the City Council has built up a high level of expertise and centre of excellence in urban flood risk management and also cutting edge drainage solutions. The City Council has set up a separate project team to deliver the new Major Emergency Management Framework being rolled out nationally in 2007 and 2008. As part of the work on the Greater Dublin Strategic Drainage Study (GSDSDS) and the SAFER (Strategies and Actions for Flood Emergency Response Management) Project the issue of coastal zone flood risk management has also been identified and addressed in part. The new tidal early warning system to deal with coastal tidal surges has already been put in place and new initiatives have also been put in place to identify areas where new infrastructure is required. Progress has been made on advancing flood defence schemes in conjunction with the office of Public works, including the commencement of the construction of a €5 million project in Spencer Dock. As part of this project new flood protection gates will be constructed that will allow for the reopening of the Royal Canal to navigation. Work also commenced on the construction of a flood defence scheme on the lower Dodder. Dublin City Council is now actively working with a new European Union Partnership on how flood resilient cities should deal with climate change impacts.

Flood control and mitigation, however, are still prevalent issues for the City Council as identified districts within the inner city and along the coast have been recognised as high-risk areas for flooding.

With the increase in storm intensities, the additional storm water may be so large that it could not enter the drainage system, as the available pipes (which cannot be upsized due to their location in the urban fabric) are unable to cope with monsoon like rainstorms and the rivers are likely to have such significant flows that free discharge into those rivers under storm conditions is not feasible. Accordingly, the new strategies involve managing surface water at source, through both attenuation of rainwater (limiting the maximum outflow of rainwater usually by construction of an on site tank) at source to limit the maximum flow of any development during a storm, the use of Sustainable Urban Drainage System technologies (SUDS) to develop a more mature relationship with streams and rivers and developing surface water management plans.

SUDS are a sequence of management practices and control structures which aim to mimic natural drainage. SUDS aim to reduce the amount and rate of water flow by a combination of infiltration into the ground (permeable paving, swales, detention basins), holding water in storage areas (green roofs, rainwater harvesting, detention basins, ponds, wetlands) and slowing down the movement of water. SUDS can achieve multiple objectives such as removing pollutants from urban run-off at source, controlling surface water run-off from developments, ensuring flood risk does not increase further downstream and combining water management with green space which can increase amenity and biodiversity⁶

In the longer term Dublin as a coastal city will be impacted on by the gradual rise in mean sea level. The annual rise of 2.7mm per year in the Irish Sea⁷ is not significant in the short to medium term but could be significant if tidal surges become more usual as a result of more intense storm activity. The Irish Sea has been warming by 0.6-0.70 Celsius per decade, a trend which is predicted to continue over the coming decades.⁸ The City Council, mindful of the potential impacts, has already commissioned a pre-feasibility study for a project called Project 2030 that will investigate the potential for tidal barrages to protect the city and region.

Figure 5.1 Suitability of SUDS techniques to achieve these aims

Techniques	Aim		
	Infiltration to reduce run-off	Holding water in storage areas	Slowing down the movement of water
Green roofs		•	•
Permeable paving	•		•
Rainwater harvesting		•	
Swales	•	•	•
Detention basins	•	•	•
Ponds		•	•
Wetlands		•	•

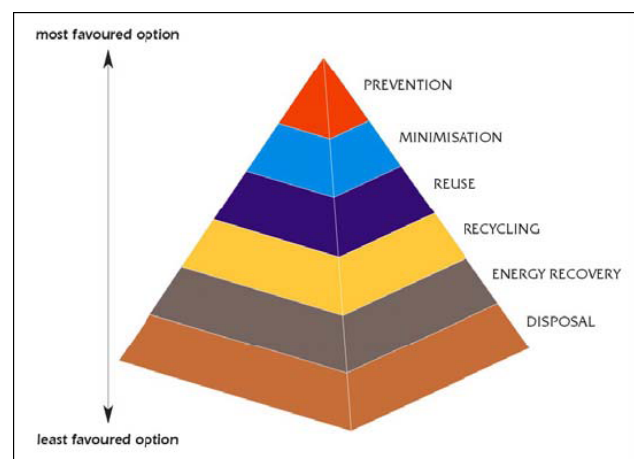
4.8 Waste Management

National waste policy is well established in Ireland with the foundation laid in the publication of Changing Our Ways in 1998. At the core of this national policy statement is the EU Waste Hierarchy with a preference for the prevention, reuse and recycling (including biological treatment) of waste ahead of energy recovery and landfill disposal. The waste sector is estimated to account for an estimated 3% of total green house gas emissions in 2005⁹

The Waste Management Plan for the Dublin Region 2005 – 2010 (Waste Plan) sets out the current regional policy framework for Dublin to progress the sustainable management of waste arising in the Region to 2010. The strategy in the Waste Plan aims to deliver maximum recycling, use thermal treatment for the treatment of residual wastes and by doing so minimize the use of landfill disposal. The adopted targets in the Plan to 2013 are 59% recycling, 25% thermal treatment and 16% landfill.

The Region in 2003 generated 1.1 million tonnes of household, commercial and industrial wastes with an estimated 4 million tonnes of construction and demolition waste due to the phenomenal levels of construction activity¹⁰ In 2006, Ireland produced 30 million tonnes of waste of which it is estimated construction and demolition accounted for 55% and municipal waste accounted for 25%.¹¹

In the Region, progress towards achieving the adopted waste targets has been steady and by the end of 2006 it



⁶ Planning Policy Statement 25: Development and Flood Risk Practice Guide: Department for Communities and Local Government, UK, June 2008: 89 Planning Policy Statement 25: Development and Flood Risk Practice Guide: Department for Communities and Local Government, UK, June 2008: 1

⁷ Community Climate Change Consortium for Ireland: Ireland in a Warmer World, June 2008: 24

⁸ Community Climate Change Consortium for Ireland: Ireland in a Warmer World, June 2008: 44/45

⁹ DOEHLG, National Climate Change Strategy 2007-2012, April 2007

¹⁰ RPS, Dublin's Waste Management Strategy and Climate Change, DCC, January 2008: 4:

¹¹ Forfas, Waste Management Benchmarking Analysis and Policies Priorities, May 2008: 6

was estimated that the municipal recycling rate for the Dublin Region would be ~35%, compared to 36% nationally.¹² This positive trend in recycling is contrasted with the Region's continuing over dependency on landfill disposal, particularly for the management of municipal wastes where 70% ends in landfill.¹³

The aim is for the region to become, as far as possible, self-reliant in terms of waste management and to this end the development of centralised biological treatment, materials sorting, waste-to-energy and landfill facilities are underway.

Prevention and minimization, which aim to reduce waste at source, are at the top of the waste hierarchy and remain a priority with resources dedicated to awareness campaigns.

Recycling remains central to the Waste Plan with a new Regional Materials Recovery Facility at Ballymount in South Dublin is due to be operational later this year; the facility will have the capacity to sort and bale in excess of 100,000 tonnes of green bin materials per annum, including plastic bottles. An issue for recycling is developing recyclable markets as most materials are exported to foreign markets for reprocessing and recycling, as the quantities generated in Ireland do not provide the necessary economies of scale for indigenous reprocessing. In 2007, the DOEHLG Market Development Group published a 5-year programme for the stimulation of recycling markets.

Biological treatment is used for kitchen and garden waste with two treatment facilities at Ballyogan and Kishane Cross due to be operational in late 2009.

Energy recovery is part of the management plan and the region will thermally treat residual waste with a new Waste to Energy Plant in Poolbeg which is due to become operational in 2012. The plant will produce energy and heat for reuse in the local grid.

A new regional landfill facility in North County Dublin is planned. The proposed facility will have a capacity to dispose of 10 million tonnes of waste and the estimated lifetime of the facility will be between 20 and 30 years. The facility is due to be operational by end of 2009 based on the current programme.

In 2007, a Draft Litter Management Plan was prepared by the City Council which was adopted in 2008. The Plan deals with litter under five main headings, prevention and awareness, responsibility and partnership, Litter Management and Cleaning, Graffiti, and Enforcement.

4.9 Air Quality and Noise Pollution

The introduction of the ban on the sale of bituminous fuel in 1990 led to a dramatic and sustained improvement in air quality in Dublin. There is however no room for complacency. While some major sources of air pollution have been largely eliminated, others such as emissions from the transport sector have emerged.

There has also been a significant increase in the stringency of air quality standards in the intervening years as our knowledge of the health effects of these pollutants increases. According to the Environmental Protection Agency "Emissions from road traffic are now the primary threat to the quality of air in Ireland. The pollutants of most concern in this regard are nitrogen dioxide (NO₂) and fine particle matter, expressed as PM₁₀. Results of monitoring indicate that compliance with the stringent new PM₁₀ and NO₂ standards may present problems in some urban areas subject to heavy traffic."

Another source of concern is the localised effects associated with the construction phase of major infrastructural projects and large-scale developments. While individual projects may have a limited lifespan, the cumulative effect on air quality in some areas of the city has been pronounced and requires increased controls. These controls can most appropriately be dealt with through the planning process.

¹² Forfas, Waste Management Benchmarking Analysis and Policies Priorities, May 2008: 3

¹³ RPS, Dublin's Waste Management Strategy and Climate Change, DCC, January 2008: 4:

On a strategic level, Dublin City Council is working with the other local authorities in the Dublin Region to publish a review of the Dublin Regional Air Quality Management Plan that can address air quality issues in an integrated manner.

Noise pollution has attracted growing attention in recent years, both in terms of affects on quality of life, and increasingly in terms of health impacts. In Dublin City, the number of noise complaint cases dealt with each year by the Air Quality Monitoring and Noise Control Unit has doubled from just over 300 per year in 2000 to over 600 per year in 2007.

The growing concern about noise pollution is reflected in the publication by the Minister for Environment Heritage and Local Government of a public consultation paper on noise issues on 27 August 2008. This is intended to lead to the publication of a Noise Act, in accordance with the Programme for Government. Many of the issues raised in the consultation paper relate directly to planning and development issues.

Dublin City Council is also actively engaged in the strategic management of noise in compliance with requirements under the Environmental Noise Directive. In 2008, in conjunction with the other Dublin Authorities, the City Council has produced noise maps and a Draft Noise Action Plan which is at the public consultation stage currently.

5. Summary of Main Issues.

General

- How do we encourage people to consume less and recycle more?
- How do we provide the necessary plant and corridors for utility infrastructure to match the compact spatial pattern of development?

Transport and Energy

- How to build in as the primary criteria for considering all new development favourably that it is located adjacent to public transport and local services which is the essence of sustainable development and what will be the consequences of such criteria on our existing spatial pattern of District and Prime Urban Centres?
- Whether policies and standards should be developed to require highest energy savings for renovations to existing buildings, as is the case for new development?
- Whether, in new developments, to encourage the sourcing of a proportion of energy requirement from renewable sources and whether this is feasible in the City Centre?
- How to ensure new development avail of identified district or group heating systems and encourage commercial development to use combined heat and power systems?

Water Supply

- Will the City Region secure a new source of supply of drinking water and if not, what are the implications for the future of new development in the city?
- Will sufficient and timely information be available regarding the location and scale of new development in the city to enable the assessment of provision of the necessary water supply needs and the securing of access routes for the infrastructure?
- How to incorporate policies and standards within the Development Plan which promote water conservation such as, minimum leakage between production and consumption, the use of water saving fixtures and fittings, rainwater harvesting?
- How to change the behaviour of householders towards their use of water?
- How to develop ecological corridors in the ERBD Basin Management Plan?

Drainage and Wastewater

- Whether a new regional wastewater treatment plant and orbital sewer will be provided and, if not, how to co-ordinate and control development throughout the region in order to prevent pollution?

Flood Management

- In identified high risk areas, such as, coastal zones and riverine zones whether development should be curtailed or subject to rigorous risk assessment criteria?
- Whether to incorporate water management policies, incorporating mitigation and adaptation measure, for all developments which recognise the 'lifecycle' of water and identify the efficient supply of water, the conservation of water through efficient use and on site conservation (rainwater harvesting), and the control of the discharge of water through the use of SUDS techniques, especially semi- permeable paving and green roofs?
- Whether policies should be developed to enhance the protection of existing ecological habitats, such as wetlands and forested areas, and identify possibilities to create new linked habitats, especially along rivers, the coastline, in landscape areas and on open space (e.g. areas with the landuse objectives Z9, Z11, and Z15)?

Waste Management

- As the construction industry accounts for a large quantity of waste generation, should the development plan promote sustainable material use in development by developing policies and standards to address:
- Reuse of materials rather than the use of new materials in development; whether in any development, the planning authority insists on a proportion of building materials are recycled materials, such as, concrete, brick, stone?
- Use of renewable materials and those low embodied energy materials and low toxic materials: whether in any development, the planning authority insists on a proportion of materials from renewable sources?
- Assessment of whole life environmental impacts.
- Whether residential and commercial developments are providing sufficient quantity and high quality recycling facilities for waste sorting located conveniently for collection?
- What is the role of local plans in addressing local waste recycling facilities as part of the social and capital infrastructure audits?

Air Quality and Noise Pollution

- How to protect identified quiet areas from noise pollution from road traffic noise, railway related noise, and air traffic and in particular noise from low flying helicopters?
- What role have new technologies as a power source in transport (e.g. electric cars, hydrogen fuel vehicles etc.), especially public transport?
- In developing mixed- use areas, apartment living and intensification of development, how to protect residents from noise from other uses, such as shops, offices, (air conditioning units) night time uses and neighbouring dwellings in the interests of amenities?
- How to develop quiet local residential streets, such as, incorporating 'Home Zones' or 'Streets for People', in the layout of developments and use surface treatments to public roads which minimize noise?